

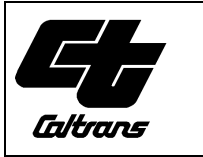
PART 2
Maintenance Program
Space and Equipment Guidelines



PART 2 - Space and Equipment Guidelines

INDEX

Section I – General Maintenance Station Features	Dec 2002	I-1
Building Components and Systems		
Roofs	Dec 2002	I-1
Doors and Windows	Dec 2002	I-1
Electrical Systems	Dec 2002	I-2
Mechanical Systems – HVAC	Dec 2002	I-4
Mechanical Systems – Water Systems	Dec 2002	I-6
Restroom Fixtures	Dec 2002	I-7
Security	Dec 2002	I-7
Telecommunications	Dec 2002	I-7
Waste Oil Storage	Dec 2002	I-8
Site Components		
Grading	Dec 2002	I-8
Miscellaneous	Dec 2002	I-8
Stormwater Handling	Dec 2002	I-8
Security Fencing	Dec 2002	I-9
 Section II - Regional Office Building Space		
Regional Manager's Office	Dec 2002	II-1
Records Storage/Equipment Room	Dec 2002	II-2
Generic office	Dec 2002	II-3
Clerical Space	Dec 2002	II-4
Office Equipment Alcove/Mail Room	Dec 2002	II-5
Foyer	Dec 2002	II-6
Training/Conference Room	Dec 2002	II-7
Kitchen/ Break Room	Dec 2002	II-8
Storage Closet	Dec 2002	II-9
 Section III - Office Building Space		
(These rooms can be used with Section II and/or Section IV buildings.)		
Corridor Circulation and Wall Thickness Allowance	Dec 2002	III-1
Communications Room	Dec 2002	III-2
Janitor's Room	Dec 2002	III-3
HVAC/Electrical Equipment Room	Dec 2002	III-4
Men's Restroom	Dec 2002	III-5
Women's Restroom	Dec 2002	III-6
Area Superintendent' Office	Dec 2002	III-7



INDEX

(Continued)

Section IV - Maintenance Office Building Space

Vestibule Between Office and Equipment Space	Dec 2002	IV-1
Supervisor/Leadworker Office	Dec 2002	IV-2
Crew Room	Dec 2002	IV-3
Locker Room	Dec 2002	IV-4
Shower Room	Dec 2002	IV-5
Utility Cove	Dec 2002	IV-6
Supply Storage Room	Dec 2002	IV-7
District Irrigation Control Room/Alcove	Dec 2002	IV-8

Section V - Equipment and Storage Building Space

Equipment Service Bay	Dec 2002	V-1
Equipment Storage Bay	Dec 2002	V-3
Special Crew Shop	Dec 2002	V-4
Special Crew Storage	Dec 2002	V-5
Crew Secure Storage	Dec 2002	V-6
Equipment Small Parts Storage and Office	Dec 2002	V-7
Resident Mechanic's Small Parts Storage and Office	Dec 2002	V-8
Utility Room	Dec 2002	V-9

Section VI - Special Programs Building Space

Special Programs Office	Dec 2002	VI-1
Special Programs Storage	Dec 2002	VI-2
Special Programs Assembly Area	Dec 2002	VI-3

Section VII - Warehouse Building Space

District Warehouse Storage	Dec 2002	VII-1
District Warehouse Office	Dec 2002	VII-2

Section VIII - Appurtenant Building Space

Hazardous Material Storage	Dec 2002	VIII-1
Sand/Salt Storage Building	Dec 2002	VIII-2
High-Pressure Washer Room	Dec 2002	VIII-3



INDEX

(Continued)

Section IX - Site Appurtenant Structures

Covered Vehicle Wash Rack/ Mud Rinse	Dec 2002	IX-1
Material Storage Bins	Dec 2002	IX-2
Covered Trash Bins	Dec 2002	IX-3
Emulsion Tank	Dec 2002	IX-4
Liquid Petroleum Gas (LPG) Tank	Dec 2002	IX-5
Fuel Island	Dec 2002	IX-6
Radio Tower and Pad	Dec 2002	IX-7

Part 2, Section I



GENERAL MAINTENANCE STATION FEATURES

This section is intended to provide a description of the standard criteria used in the design of Maintenance Stations within the department. It provides an overview of what one would expect to see in a typical maintenance stations project. It also gives a project engineer what to include in terms of scope when drafting Project Initiation Documents (PIDs). If the project is to contain designs that differ from the established standards significant justification will be required within the PID, as well as approval from the HQ Program Advisor.

There are a variety of buildings that can be part of a functioning maintenance station, dependent upon the needs of the maintenance station crews. The various buildings and their associated spaces are described in Sections II - VIII in terms of size, occupancy, and standards. The buildings which are to be included in the project must be called out in the programming documents, starting with the PSR.

Building Components and Systems

Many of the buildings contain similar design features and fixtures. This section is intended to describe those common components in order to establish a guideline for use through out the state. It is intended to give details of these common components, so that there is an understanding of

Roofs

- a) Avoid flat roofs with built-in drains. Slope roofs to drain at the eaves.
- b) Roofs will typically be sloped to drain in two directions. In rural areas, where aesthetic concerns may be low, roof slopes sloping in one direction may be considered. The roof design concept shall be coordinated between the design architect and district maintenance prior to the beginning of design.
- c) Do not use gutters or downspouts in snow areas; they are potential ice-dam producers; also they will be damaged or destroyed when the roof sheds its snow pack. Longer eaves should be used at snow stations to keep falling snow from piling up against the building. Snow guards are also recommended to prevent large drifts from being shed from the roofs.

Doors and Windows

- a) Personnel Doors
 - 1) Exterior doors should be standard hollow metal doors in pressed metal frames. Interior doors may be solid core wood, or standard hollow metal doors in pressed metal frames. Use standard size, 6'-8" high, 3'-0" wide, and 1¾" thick, for all doors unless special circumstance requires a different size.
 - 2) Exterior personnel doors shall have a metal threshold.

- 3) The use of glass windows in exterior doors should be avoided; where necessary, small 6" x 18" windows with wire glass can be used. "Burglar resistant" glazing materials should be considered for use in Regional Offices or multi-crew offices rather than standard glass, where it is necessary to use glazing in exterior doors.

b) Vehicle Doors

- 1) Vehicle Doors for equipment bays and access to warehouse storage shall be power operated sectional overhead doors, with the ability to open manually with a chain. Do not use "can type" or "roll-up" doors.
- 2) Sectional overhead doors shall be insulated panel construction, made of gage sheet steel skins foamed together during the manufacturing process with insulating foam. It is recommended that the door ride on three-inch tracks. Use high lift tracks at service bay over the vehicle hoist; use roof slope tracks where appropriate.
- 3) Where windows are to be installed in sectional overhead doors, they shall be clear tempered glass. Use of light sections is recommended. Do not use windows in sectional overhead doors for warehouse buildings.

c) Windows

- 1) Use standard, commercial grade, aluminum sash and frame for windows. Windows must meet California Energy Standards.
- 2) Operable windows shall lock from the building interior.
- 3) Skylights may be used as an option for providing light.

Electrical Systems

a) General

- 1) Local utility requirements should be examined in order to insure compliance with the local utility codes, if it is anticipated the station will be connected to those utilities.
- 2) Coordinate the location of the service point and other service requirements with personnel from the serving electrical utility company.
- 3) Use 208/120-volt, 3-phase, 4-wire service whenever possible.
- 4) Pull boxes located in the maintenance yard paving shall be traffic rated. Provide markings on pull box covers indicating the type of circuit enclosed.
- 5) Pull boxes should be located outside of the snow removal area whenever possible to avoid damage removal equipment.

b) Service Conductors

- 1) Electrical service meter and main disconnect (or distribution switch board) shall be installed outside the building for ease of meter reading by the serving utility company. In addition to the conduit system required for the project, provide two additional 103mm (4 inch) "stub outs" terminated in a pull box adjacent to the switchboard for future use.
- 2) Electrical service conductors shall be oversized to provide a minimum of 25% spare capacity for future expansion.

- 3) Electrical service conductors that are part of a Caltrans project shall be installed in underground conduit. For service conductors from the power pole to the electric meter, use the type of conduit required by the utility company. For service conductors from the electric meter to buildings or other places of demand, use PVC conduit below grade. For service conductors in hazardous areas and below under building foundations, use rigid steel conduit.

c) Panelboards

- 1) Main electrical panelboards shall have 20% minimum spare capacity.
- 2) Distribution electrical panelboards shall have 20% of the circuit breaker spaces unused at the time of installation.
- 3) When practical, enclose main panelboard in an electrical room, preferably on an outside wall.

d) Branch Circuit Conduits

- 1) All branch circuit conductors inside the building shall be installed in metal conduit, except where corrosion resistance is needed (e.g. Salt Storage building). Branch circuit conductors outside of the building shall be installed in underground conduits, metal or PVC, depending on the degree of hazard.
- 2) Install conduits overhead wherever possible, either above the ceiling or mounted to the underside of the ceiling as appropriate.
- 3) In office building spaces, use concealed conduit inside of stud walls or above the ceiling.
- 4) Do not install conduit in concrete masonry walls or in solid concrete walls. In office buildings where masonry or concrete is used for exterior walls, the wall interior should be furred and finished with gypsum wallboard; install conduit in the furred space.
- 5) In equipment building, warehouse, special crew shop, and appurtenant building spaces, use exposed conduit, attached to walls or ceilings.

e) Lighting

- 1) Lighting design shall conform to the requirements of the California Code of Regulations, Title 24, parts 1 and 6.
- 2) For Office Spaces and Crew Spaces, fluorescent fixtures will typically be used for lighting. Where the building spaces are designed with 8 foot high ceilings, fixtures shall be surface mounted.
- 3) For other spaces, lighting fixtures are to be coordinated with the district.
- 4) Equipment bays, warehouses, and special crew shops shall use ceiling hung industrial type fixtures. Interior fixtures shall be hung at 12'-6" above the floor; fixtures at the wall shall be mounted on brackets, between 8'-0" and 9'-0" above the floor. Location of fixtures shall be coordinated with bridge crane and vehicle door locations.
- 5) If additional exterior lighting is required for facility security or operation, metal halide luminaires shall be used.

f) Controls

- 1) Electric motor starters shall be National Electrical Manufacturers Association (NEMA) rated with adjustable overloads.
- 2) Provide circuit breakers, not fuses, in combination with motor starters.
- 3) Exterior lighting that provides minimum nighttime illumination must be regulated by photoelectric controls with “manual-auto” selector switch for emergency situations. Manual switches should control nighttime operational lighting.
- 4) Equipment bay exhaust fans for the four air changes per hour must maintain continuous operation any time engines of any type are running or repair work on vehicles which utilize Class-1, Group-D, hazardous fuel is performed. One control switch shall operate all the fans simultaneously.

g) Stand-By Power

- 1) The electrical power distribution system shall be designed to provide standby power to the following electrical equipment/spaces:
 - Minimal Supervisor’s/Superintendent’s Office and Crew Room lights, and selected duplex receptacles
 - Men’s and women’s restroom lights
 - Radio/microwave power and telecommunications, where applicable
 - Some vehicle service bay lights and workbench duplex receptacles
 - Air compressor
 - Fuel Island dispensers and lights
 - Alarm Systems
- 2) The power transfer switch shall be manual type. The standby power receptacle shall match the plug of the Caltrans portable standby generator in the area. Location of standby power receptacle and receptacle type and size shall be discussed with Caltrans maintenance personnel.

Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)**a) General**

- 1) Warehouses and storage rooms shall not be heated or cooled except where stored materials will be damaged by temperature extremes or where necessary to keep equipment in operating condition. Verify this need for heating or cooling with the Supervisor, and coordinate with the project architect.
- 2) If natural gas is available from a public utility, use gas for space and water heating. If natural gas is not available, consider using liquefied petroleum gas (LPG).

- 3) If a snow pack in excess of 12 in. is expected to occur, the following criteria should be considered in the project design:
 - Do not place mechanical equipment on the roof. Use wall mounted equipment or place equipment on concrete pad on grade.
 - Exhaust fans must be located high enough on the wall so as not to be blocked by drifting snow that piles against the building. Provide ducting down to 18 in. from the floor or lower.

b) Mechanical Venting

- 1) Equipment bays shall be provided with mechanical ventilation, declassification fans, capable of introducing outside air at a rate which is the larger of:
 - 1.5 CFM per square foot of total equipment bay floor area based on the California Code of Regulations (Title 24), or
 - 4 air changes per hour of total equipment bay volume based on hazardous atmosphere declassification, based on the latest edition of the California Electric Code, adopted for use by Caltrans.
- 2) Each equipment service bay must use a tail pipe exhaust system. This may be accomplished by using one fan with inlets in each bay, for every two service bays. These fans shall be ceiling mounted.
- 3) Each engine repair stall shall be equipped with an exhaust fume removal, which if over 10 ft. in length, shall mechanically exhaust 300 CFM, per the CBC. These should be mounted at the highest point of the ceiling. Usually this requirement is met with portable exhaust units provided by the maintenance mechanic responsible for engine repairs. Verify that the maintenance mechanic is aware of this ventilation requirement and has the proper equipment.

c) Louvers

- 1) Air intake louvers for exhaust fans should be provided as follows:
 - All stations shall use adjustable louvers
 - Barometric louvers will not be permitted.
- 2) The mechanical engineer and design architect should determine the louver size (free area), type, and placement.
- 3) The louvers are usually placed in the overhead doors to promote a uniform air flow pattern across the lower 18 in. of the bay floor. The architect, as part of the overhead door specification, normally specifies the louvers.

d) Heating and Cooling

- 1) Radiant heaters are typically used to heat the equipment bays. The radiant system may be composed of a hydronically heated floor slab or overhead radiant heaters. (gas-fired high intensity or low intensity) Forced air unit heaters may also be used if climate and facility use warrant.

- 2) If radiant floor heating is installed which incorporates the use of structural slab under the heating slab, ensure that an epoxy-bonding agent is specified to be applied to the structural ground slab before the heating slab is poured, otherwise separation of the slabs will occur.
- 3) If gas-fired wall heaters are used for interior office space heating, each heater shall have its own thermostat to provide individual control in each heating zone. The thermostat for a central HVAC system shall be strategically located in the largest or most critical space.
- 4) Equipment bays shall be cooled by evaporative coolers
- 5) Office and other building spaces may be cooled by air conditioning. Special crew shops where work is performed on or by using sensitive electronic equipment may also use air conditioning. Central HVAC or wall mounted units may used, based on which is most economical.
- 6) Restrooms should be “heated” or “cooled” by air movement from adjacent rooms, depending on size, pulled through door louvers or jumper ducts by the restroom exhaust fan.

Mechanical Systems – Water Systems

a) General Plumbing

- 1) All plumbing fixtures shall be standard commercial grade.
- 2) Use standard pipe vents for waste system, with flexible boot-type pipe flashing at roof penetrations.
- 3) In general, avoid vent, pipe, and flue penetrations through the roof. Where they are absolutely necessary, penetrations should be located through the upper $\frac{1}{3}$ of the sloped roof near the ridge, where the snow pack will be the least.
- 4) Provide water supply and shut-off valve for ice machine and refrigerator where required.
- 5) If freezing conditions are expected to occur the following items should be considered in the project design:
 - All water piping outside of the building that is located above the frost line should be wrapped with insulation and a metal shield.
 - Above grade water pipe, valves, taps, emergency eyewash and showers, and other fixtures should be freeze-proof type, or should be enclosed in an insulated housing.
 - The water piping system should be designed with a slope to a low-point tap to allow for system drain down.
 - The water supply well should have provisions for electric resistance heat to prevent freezing and a thermostat for automatic operation.

b) Fire Sprinklers

- 1) All equipment service bays, in which any welding occurs, totaling 3,000-sq. ft. or more must be protected with a fire sprinkler system.

- 2) Buildings or portions of buildings located on department property within 20 ft. of a freeway structure, including its supporting members, must conform to *Volume 8, Section 806, Caltrans Division of Right of Way, Procedure Manual, Fire Safety*. Buildings subject to these guidelines shall have an automatic fire extinguishing system throughout. Buildings located under steel bridges will also use non-combustible construction materials.

c) Emergency Eyewash

- 1) Emergency eyewash shall be provided for all equipment storage and service bays. The preferred location is indoors, but should be coordinated between the Architect and the station supervisor.
- 2) Provide additional emergency eyewash and shower on one exterior wall of the chemical storage room/building and at other spaces where hazardous fluids may splash or spill on employees.
- 3) For stations that receive snowfall, the eyewash and shower units shall be placed inside the buildings.
- 4) Emergency eyewash showers are not connected to the sanitary sewer and therefore drain onto the floor slab after each use. Check the drainage pattern for potential hazards and verify that all electrical outlets and nearby equipment are located well above or away from the emergency eyewash and shower.

d) Water Coolers

- 1) Provide two, high/low, electric, refrigerated, water coolers per station, one in the office space and one in the equipment space. Additional water coolers shall not be cooled by electric refrigeration.

e) Water Heaters

- 1) Where practical, use point of use water heaters, particularly when natural gas or LPG is not available.
- 2) When using conventional tank type heaters, put the water heater in either the janitor's closet or the HVAC room. Do not provide a separate enclosed space for the water heater.
- 3) Water heaters require $\frac{3}{4}$ -inch minimum drain lines for the pressure relief valve. The line extends with a continuous slope through an exterior wall and terminates 6 in. \pm above finish grade.

Restroom Fixtures

- a) Use wall-hung lavatories in restrooms. If circular or semicircular wash fountains are installed (shop facilities), an ADA compliant wall-hung lavatory must also be included.
- b) Use 1.6 gallons per flush maximum, tank type toilets; and 1.0 gallons per flush maximum, for wall mounted, flush valve type urinals. Obtain verification from the Wastewater Section that low flush fixtures will be compatible with the sanitary sewer system. This is very critical in the design of leach fields.

- c) Toilet fixtures shall be provided for a minimum ratio of one per ten employees. A urinal counts as one fixture. One water closet and one urinal are considered minimum for the men's toilet room; one water closet is considered minimum for the women's toilet room.
- d) Both men's and women's restrooms shall be provided at all maintenance stations. Additional facility restrooms may be unisex.
- e) Shower stalls are recommended to be prefabricated fiberglass or plastic with a solid, cast concrete shower base. Do not use metal shower stalls. Handicap showers require the slab to be lowered at shower entry, i.e., no lip, to provide barrier free access.
- f) Use the manufacturer's standard product for metal lockers, toilet partitions, shower stalls, metal workbenches, and other prefabricated items.

Security

- a) The facility security needs shall be coordinated with the statewide facilities coordinator.

Telecommunications

The Telecommunications Room will be used to house phone line terminal block, network, and radio communications equipment. The coordinator of this room is the HQ Maintenance Office of Radio Communications, and they should be consulted for any use of this room. They will also determine where radio equipment will be located, and the cabling requirements from the Telecommunications Room to other specific locations.

This room will vary in size according to the location and the relevance of the maintenance station. Some locations such as the regional office may require a communications vault, a communications tower for microwave communications, and/or a standby generator. Single crew maintenance stations may require a small radio room and antenna pole. However, if the physical location of the maintenance station is strategically advantageous for radio communications, this room could become a hub for the area, in which case it would be larger than usual.

This room will also be used for the termination of telephone company cables, and for network equipment furnished by others.

Waste Oil Storage

- a) The waste oil storage shall be a portable unit, as specified by the Equipment Service Center. This unit shall be stored in the service bay
- b) When special justification is provided, a permanent, exterior, 500 gallon, double walled tank may be used.

Site Components

Grading

- a) The yard shall be graded to drain with a two-percent maximum slope. A slope of one and a half-percent is preferred. Runoff should be directed to a retention basin and/or receive clarification prior to off-site discharge. Hazardous waste spills shall not be permitted to drain off the property. Stormwater runoff shall be directed to a central collection point prior to off site discharge. Any water treatment options will be based on regulatory requirements in effect at each site and on a case by case basis.

Miscellaneous

- a) Flagpoles with proper lighting shall be provided at Regional Offices only.
- b) Signage indicating facility name and Caltrans ownership shall be provided where appropriate, at the entrance location to the facility. Signs shall be of Caltrans' standard baked enamel or porcelain materials on a honeycomb core.

Stormwater Handling

- a) Local storm drainage requirements should be examined in order to insure compliance with the local utility codes, if it is anticipated the station will be connected to those utilities.

Security Fencing

- a) Security fencing should be installed around the "developed" area of the maintenance station. The fence should not be less than 8 ft. in height. Chain link is the preferred fence type.
- b) At stations which receive snowfall, and snowdrifts are a problem, fencing may be omitted.

Part 2, Section II



Name	Regional Manager's Office	Category: Regional Office Building Space
Description	Office space for Regional Manager, whose duties include administration and management of Maintenance Stations located within the region	
Space Allocation	<i>Standard Allocation:</i>	One per Regional Office
	<i>Special Justification Required?</i>	No
	<i>Designed for:</i>	1 Person (s) per Space
	<i>Related Spaces:</i>	Clerical Space; Office Supplies Closet.
Code Information	<i>CBC "Occupancy" Classification:</i>	B
	<i>CBC "Occupant Load" Factor:</i>	One Occupant per 100 SF (9.3m ²)
	<i>CBC or Title 24 Special Design Requirements:</i>	None noted
	<i>Heating, Ventilation, And Cooling System:</i>	Central HVAC and/or heater. See Part 2, Section 1, <u>"Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)"</u> (b) Mechanical Venting.
Mechanical And Electrical Systems	<i>Lighting Level:</i>	60 fc general illumination @2'-6" (76.2 cm) workplane without windows. 40 fc general illumination @ 2'-6" (76.2 cm) workplane with windows.
	<i>Electrical Power:</i>	110v duplex outlet at 8'-0" (2.44m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor. Provide isolated ground type 110v duplex outlet and one dedicated circuit for the computers.
	<i>Plumbing:</i>	N/A
	<i>Telephone:</i>	Two telephone outlets bottom of 1'-6" (45.7 cm) above floor
	<i>Radio/Speaker:</i>	Two 4" x 4" (10.2 cm x 10.2 cm) junction boxes bottom of boxes 7'-0" (2.1m) and 1'-6" (45.7 cm) above floor
	<i>Telecommunications:</i>	Two data outlets
	<i>Hazards:</i>	None noted
Special Requirements	<i>Standard Floor Area:</i>	150 SF (13.9 m ²)
	<i>Minimum Ceiling Height:</i>	8'-0" (2.44m)
Area and Height Standards	<i>Floor:</i>	Carpet, tight closed-loop, standard commercial grade; resilient base.
	<i>Ceiling:</i>	Suspended T-bar acoustical ceiling or gypsum board with acrylic enamel paint.
	<i>Wall:</i>	Gypsum wallboard with semi-gloss acrylic enamel paint.
	<i>Door:</i>	HC Metal or SC Wood in PMF, vision panel optional.
	<i>Furnishings:</i>	Venetian blinds on windows; 4'x4' (1.2 m x 1.2m) whiteboard; 4'x4' (1.2m x 1.2m) tackboard.
Remarks	*This space can be included at Regional Offices only. Regional Manager's Office Building is normally separated from, but on the same site as, the maintenance station.	



Name	Record Storage Room	<i>Category:</i> Regional Office Building Space
Description	Space for active and inactive files.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per Regional Office No N/A Clerical Space
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	B One Occupant per 200 SF (18.6 m ²) None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/Speaker:</i> <i>Telecommunication:</i>	Central HVAC. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting. 50fc general illumination @ 3'-0" (91.4 cm) workplane. Verify equipment to be installed; dedicated circuit required for each desktop computer, 2 dedicated circuits minimum; bottom of duplex boxes at 1'-6" (45.7 cm) above floor. N/A N/A N/A N/A
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	200 SF (18.58 m ²). More area is allowed with special justification 8'-0" (2.44 m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Resilient tile, standard commercial grade; resilient base. Suspended T-bar acoustical ceiling or gypsum board with acrylic enamel paint. Gypsum wallboard with semi-gloss acrylic enamel paint. HC Metal or SC Wood in PMF, vision panels optional, lockable. 2'-0" (61 cm) deep counter-top for equipment with knee space for seated operator. Telephone; 4"x4" (1.2 m x 1.2 m) tackboard.
Remarks	This space can be included at Regional Offices only.	



Name	Generic Office	Category: Regional Office Building Space
Description	Office space for Region Administrator (RAO), Contract Manager, Permits Officer, TMC/ Hazmat Supervisor, or other full time management personnel.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	N/A Yes 1 Person (s) per Space Clerical Space; Office Supplies Closet
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	B One Occupant per 100 SF (9.3m ²) None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i>	Central HVAC. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting. 60 fc general illumination @2'-6" (76.2 cm)workplane without windows. 40 fc general illumination @ 2'-6" (76.2 cm) workplane with windows. 110v duplex outlet at 8'-0 (2.44 m) "max. spacing; bottom of box 1'-6" (45.7 cm) above floor. Provide one isolated ground type 110v duplex outlet on a dedicated circuit for a computer. N/A Two telephone outlets. Two 4" x 4" (10.2 cm x 10.2 cm) junction boxes bottom of boxes 7'-0" (2.1m) and 1'-6" (45.7 cm) above floor.
Special Requirements	<i>Telecommunication:</i>	Two data outlets
Area and Height Standards	<i>Hazards:</i> <i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	None noted 130 SF (12.1m ²) 8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Carpet, tight closed-loop, standard commercial grade; resilient base. Suspended T-bar acoustical ceiling or gypboard with acrylic enamel paint. Gypsum wallboard with semi-gloss acrylic enamel paint. HC Metal or SC Wood in PMF, vision panel optional. Venetian blinds on windows; 4'x4' (1.2 m x 1.2 m) whiteboard; 4'x4' (1.2 m x 1.2 m) tackboard.
Remarks	Private office for RAO, open space for others.	



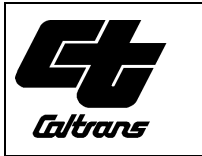
Name	Clerical Space	Category: Regional Office Building Space
Description	Clerical support for management Typical duties include bookkeeping, typing, accounting, and computer operation; also receipt of money and paperwork over the Public Service Counter.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per each Regional Manager No 1 Person per Space (May vary with District needs) Office Supply Storage Closet, Public Service Counter, Office Equipment alcove.
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	B One Occupant per 100 SF (9.3 m ²) None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i> <i>Telecommunication:</i>	Central HVAC. See Part 2, Section 1, "Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)" (b) Mechanical Venting. 60 fc general illumination @2'-6" (76.2 cm) workplane without windows 40fc general illumination @ 2'-6" (76.2 cm) work plane with windows. 110v duplex outlet at 8'-0" (2.44 m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor. Provide minimum two isolated ground type 110v duplex outlets on one dedicated circuit for a computer. N/A One telephone outlet. One 4" x 4" (10.2 cm x 10.2 cm) junction box One data outlet per desk. One 4" x 4" (10.2 cm x 10.2 cm) junction box 1'-6" (45.7 cm) above floor.
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	90 SF per person (8.36 m ²) 8'-0" (2.44 m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Carpet, tight closed-loop, standard commercial grade; resilient base. Suspended T-bar acoustical ceiling or gypsum wallboard with acrylic enamel paint Gypsum wallboard with semi-gloss acrylic enamel paint. HC Metal or SC Wood in PMF, vision panel optional. Venetian blinds on windows; 4'x4' (1.2 m x 1.2 m) tackboard.
Remarks	This space may be included at Regional Offices only. This is a combined space for all clerical staff. Direct access necessary from this space to related spaces noted above. Access to Regional Manager and Area Superintendent offices may be direct or through an access corridor. An electric water cooler is to be provided in the combined space.	



Name	Office Equipment Alcove/Mail Room	Category: Regional Office Building Space
Description	Space for copier(s), shredders, desktop computers, FAX machine, and other electrical equipment. Also space for locking mailboxes for supervisors, superintendent, RAO, and office staff.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per Region Office No 2 Persons per Space Clerical Space
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	B One Occupant per 100 SF (9.3 m2) None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i>	Included in Clerical Space 50 fc general illumination @2'-6" (76.2 cm) workplane. Verify equipment to be installed. Separate dedicated circuit with isolated ground required for each desktop computer; 2 dedicated circuits minimum. All outlets at 1'-6" (45.7 cm) above floor, 8' (2.44 m) max spacing.
Special Requirements	<i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i> <i>Telecommunication:</i> <i>Hazards:</i>	N/A One telephone outlet; one fax machine outlet, N/A One data outlet. None noted
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	90 SF (8.36 m2) 8'-0" (2.44 m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Carpet, tight closed-loop, standard commercial grade; resilient base. Suspended T-bar acoustical ceiling or gypsum wallboard with acrylic enamel paint Gypsum wallboard with semi-gloss acrylic enamel paint. None, one wall open to Clerical Space.. 2'-0" (61cm) deep counter-top for equipment with knee space for seated operator. Telephone; 4'x4' (1.2 cm x 1.2 cm) tackboard.
Remarks	This space can be included at Regional Offices only.	



Name	Foyer	Category: Regional Office Building Space
Description	Public entry and waiting area. Service Counter is located along a wall separating this space and the Clerical Space.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per each Regional Manager Security measures N/A Permits Office, Clerical Space, Public Counter, access corridor to the rest of the building.
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	B One Occupant per 100 SF (9.3 m ²) None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i> <i>Telecommunication:</i>	Central HVAC. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting. 30 fc general illumination @ floor, 60 fc @ public counter. 110v duplex outlet at 8'-0" (2.44 m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor. 110v Duplex outlet at each end of service counter. N/A One outlet at each end of service counter. N/A N/A
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	100 SF (9.3 m ²) 8'-0" (2.44 m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Resilient tile, standard commercial grade; resilient base. Suspended T-bar acoustical ceiling or gypsum wallboard with acrylic enamel paint Gypsum wallboard with semi-gloss acrylic enamel paint. Metal/wood door in PMF, vision panel optional, or aluminum window wall system. Two 4'x4' (1.2 m x 1.2 m) tackboards.
Remarks	* This space can be included at Regional Offices only. Space requirements handled individually.	



Name	Training/Conference Room	Category: Regional Office Building Space
Description	This space provides an assembly space for groups of up to 49 people for training or conference. May be used for staff meeting room.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per Regional Office No 49 Person (s) per Space One-Hour corridor
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	B One Occupant per 15 SF (1.4 m ²) Need two out swinging exit doors, low-level exit signs; panic hardware; one-hour corridor access.
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i> <i>Telecommunication:</i>	Central HVAC. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting. 50 fc general illumination @ 2'-6" (76.2 cm) workplane. 110v duplex outlet at 8'-0" (2.44 m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor. N/A One telephone outlet or two outlets for a wall with partitions. One 4" x 4" (10.2 cm x 10.2 cm) junction box Five data outlets/LAN connection
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	900 SF (83.6m ²) + 100 SF (9.3m ²) separate storage 10'-0" (3.0m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Resilient tile, standard commercial grade; resilient base. Suspended T-bar acoustical ceiling or gypsum wallboard with acrylic enamel paint Gypsum wallboard with semi-gloss acrylic enamel paint. Metal door with vision panel in PMF. Venetian blinds on windows; (4) 4'x4' (1.2 m x 1.2 m) whiteboards and (4) 4'x4' (1.2 m x 1.2 m) tackboard each space. Pull down projection screens each space and stub out for projector. Counter along one wall.
Remarks	This space can be included at Regional Offices only. Consider using a folding partition to divide the space in two and add flexibility to the use of this space, either here or in crew room, but not in both. Two exits recommended.	



Name	Kitchen/ Break Room	<i>Category:</i> Regional Office Building Space
Description	Used for breaks and lunch.	
Space Allocation	<i>Standard Allocation:</i>	One per Regional Office. Or at large Maintenance Stations (5+ crews) that are not regional offices.
	<i>Special Justification Required?</i>	No
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	Staff Meeting Room
Code Information	<i>CBC "Occupancy" Classification:</i>	B
	<i>CBC "Occupant Load" Factor:</i>	N/A
	<i>CBC or Title 24 Special Design Requirements:</i>	None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i>	Central HVAC. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting. Include exhaust fan over cooking area, switched w/pilot light
	<i>Lighting Level:</i>	75 fc at 3'-0" high kitchen counter. 40fc general illumination at 2'-6" (76.2 cm) workplane.
	<i>Electrical Power:</i>	Pair of 110v duplex outlets at 5'-0" (1.5 m) spacing above countertop or at 3'-6" (1.1 m) above floor. 220v if required for appliances, verify requirements.
	<i>Plumbing:</i>	Hot and cold water, waste and vent.
	<i>Telephone:</i>	N/A
	<i>Radio/ Speaker:</i>	N/A
	<i>Telecommunication:</i>	N/A
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i>	10 SF/person with 150 SF (13.9 m ²) minimum
	<i>Minimum Ceiling Height:</i>	8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i>	Resilient tile, standard commercial grade; resilient base.
	<i>Ceiling:</i>	Gypsum wallboard with acrylic enamel paint.
	<i>Wall:</i>	Gypsum wallboard with semi-gloss acrylic enamel paint.
	<i>Door:</i>	HC Metal or SC Wood in PMF.
	<i>Furnishings:</i>	Microwave oven, refrigerator, double sink with disposal, cabinet, and countertop.
Remarks	Includes seating area. All furnishings shall be ADA compliant.	



Name	Storage Closet	Category: Regional Office Building Space
Description	Storage of office supplies for day-to-day operations.	
Space Allocation	<i>Standard Allocation:</i>	One per Regional Office.
	<i>Special Justification Required?</i>	No
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	Clerical Space, Superintendent's Office.
Code Information	<i>CBC "Occupancy" Classification:</i>	B
	<i>CBC "Occupant Load" Factor:</i>	N/A
	<i>CBC or Title 24 Special Design Requirements:</i>	
		None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i>	
		N/A
	<i>Lighting Level:</i>	20fc general illumination @ floor.
	<i>Electrical Power:</i>	One 110v duplex outlet; bottom of box 1'-6" (45.7 cm) above floor.
	<i>Plumbing:</i>	N/A
	<i>Telephone:</i>	N/A
	<i>Radio/ Speakers:</i>	N/A
	<i>Telecommunication:</i>	N/A
Special Requirements	<i>Hazards:</i>	
		None noted
Area and Height Standards	<i>Standard Floor Area:</i>	80 SF (7.4m ²) per three Clerical Spaces
	<i>Minimum Ceiling Height:</i>	8'-0" (2.44m) (0.32 cm)
Materials And Finishes	<i>Floor:</i>	
		Resilient tile, standard commercial grade; resilient base.
	<i>Ceiling:</i>	Gypsum wallboard with acrylic enamel paint.
	<i>Wall:</i>	Gypsum wallboard with semi-gloss acrylic enamel paint.
	<i>Door:</i>	HC Metal or SC Wood in PMF.
Remarks	<i>Furnishings:</i>	
		Floor to ceiling shelves.
Remarks		* This space can be included at Regional Offices only

Part 2, Section III



Name	Corridors and Walls	Category: Office Building Space
Description	Provides corridor circulation and access to office spaces and an allowance for wall thickness.	
Space Allocation	<i>Standard Allocation:</i> 20% of office building floor area <i>Special Justification Required?</i> No <i>Designed for:</i> N/A <i>Related Spaces:</i> None noted	
Code Information	<i>CBC "Occupancy" Classification:</i> B <i>CBC "Occupant Load" Factor:</i> N/A <i>CBC or Title 24 Special Design Requirements:</i> Comply w/ CHAP 10, CBC	
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> Central HVAC. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting. <i>Lighting Level:</i> 20 fc general illumination @ floor (corridor). <i>Electrical Power:</i> 110 v duplex outlet at 8'-0" (2.44 m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor (corridor).. Wire and switch for portable generator hookup. <i>Plumbing:</i> N/A <i>Telephone:</i> N/A <i>Radio/ Speaker:</i> N/A <i>Telecommunication:</i> N/A	
Special Requirements	<i>Hazards:</i> None noted	
Area and Height Standards	<i>Standard Floor Area:</i> As required <i>Minimum Ceiling Height:</i> 8'-0" (2.44m)	
Materials And Finishes	<i>Floor:</i> Resilient tile, standard commercial grade; resilient base (corridor). Floor finish can be quarry tile or carpet in Regional Offices (corridor). <i>Ceiling:</i> Suspended T-bar acoustical ceiling or gypsum wallboard with acrylic enamel paint (corridor). <i>Wall:</i> Gypsum wallboard with semi-gloss acrylic enamel paint (corridor). <i>Door:</i> Exterior; Metal door in PMF, Interior, HC Metal or SC Wood door in PMF; vision panels (corridor) No windows required. <i>Furnishings:</i> N/A	
Remarks		



Name	Communications Room	<i>Category:</i> Office Building Space
Description	Space for radio and network communications equipment.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One Region Office or Maintenance Station. Yes 3 Person (s) per Space Radio Tower
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	B One Occupant per 100 SF (9.3m2) None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i> <i>Telecommunication:</i>	Central HVAC or wall mounted air conditioner and/or heater. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting. 50 fc general illumination @ 3'-0" (0.9 m) workplane. 110 v duplex outlet at 8'-0" (2.44 m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor. Additional power as required for radio equipment. (Minimum of two 20 A circuits @ 110 v). N/A Two telephone outlets and two data outlets, one FAX outlet. Cable ladders, terminal blocks, and 19" racks. Internet LAN
Special Requirements	<i>Hazards:</i>	If transmitting equipment is at the site may need special signs, contact radio office for sign specifications
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	120 SF (11.1 m ²) for Maintenance Stations or 140 SF (13.0m ²) for Regional Offices 8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Resilient tile, standard commercial grade; resilient base. Suspended T-bar acoustical ceiling or gypsum wallboard with acrylic enamel paint. Gypsum wallboard with semi-gloss acrylic enamel paint. Provide cable entry plate. HC Metal or SC Wood in PMF, visions panel optional. No windows required.
Remarks	One large space should be adequate for locations that house both Maintenance Stations and Regional Offices.	



Name	Janitor's Room		Category: Office Building Space
Description	Utility space for storing mop, broom, and cleaning supplies. Hot water heater may be located in this space.		
Space Allocation	Standard Allocation:	One per office building	
	Special Justification Required?	No	
	Designed for:	N/A	
	Related Spaces:	Restrooms	
Code Information	CBC "Occupancy" Classification:	B	
	CBC "Occupant Load" Factor:	N/A	
	CBC or Title 24 Special Design Requirements:	Gas fired hot water heater must be at least 18" (45.7 cm) above floor. Provide outside air for combustion, per California Mechanical Code.	
	Mechanical And Electrical Systems	Heating, Ventilation, and Cooling System:	Exhaust fan. Connected to light switch.
	Lighting Level:	20 fc general illumination @ floor	
	Electrical Power:	One 110 v GFCI duplex outlet; bottom of box 3'-6" (1.1 m) above floor.	
	Plumbing:	Hot and cold water. Hot water heater, floor sinks, waste and vent.	
	Telephone:	N/A	
	Radio/ Speakers:	N/A	
	Telecommunication:	N/A	
Special Requirements	Hazards:	None noted	
Area and Height Standards	Standard Floor Area:	80 SF (7.4 m ²)	
	Minimum Ceiling Height:	8'-0" (2.44m)	
Materials And Finishes	Floor:	Resilient tile, standard commercial grade; resilient base.	
	Ceiling:	Gypsum wallboard with acrylic enamel paint.	
	Wall:	Gypsum wallboard with semi-gloss acrylic enamel paint	
	Door:	HC Metal or SC Wood with louver in PMF.	
	Furnishings:	Mop racks; shelves; floor sink for mops and to fill mop-bucket.	
Remarks			



Name	HVAC/ Electrical Equipment Room	<i>Category:</i> Office Building Space
Description	Space to house HVAC equipment when a central heating and cooling system is used.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per office building No N/A Electrical Closet
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	B N/A None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i> <i>Telecommunication:</i>	Central HVAC with gas-fired heating unit. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting. 30 fc general illumination @ floor 110 v duplex outlet at 8' 0" (2.44 m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor. 220v as required for equipment. Gas for space heater. High-pressure refrigerant lines from the air handler to outside compressor. N/A N/A N/A
Special Requirements	<i>Hazards:</i>	Hot equipment; carbon monoxide buildup; potential electrical shock.
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	120 SF (9.3 m ²) 8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Exposed concrete with sealer; resilient base. Gypsum wallboard with acrylic enamel paint. Gypsum wallboard with semi-gloss acrylic enamel paint Pair of metal 2'-6"x6'-8" (0.76 m x 2.03 m) doors with louvers in PMF. Outside combustion air required for gas-fired heating unit.
Remarks	Depending on the size of the air handler unit, this space can be combined with the Electrical Closet, located in an attic space or in a small closet by itself.	



Name	Men's Restroom	<i>Category:</i> Office Building Space
Description	Self-explanatory.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per office building No N/A Corridor or vestibule, locker rooms. Must be accessible to rest of building.
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	B N/A Handicap accessibility
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i> <i>Telecommunication:</i>	Exhaust fan; exhaust minimum 10 air changes per hour. Supply air provided from other conditioned interior space through door louvers or jumper duct, and may require fire dampers. 20 fc general illumination @ floor Lighting and exhaust fan activated by motion sensor. Two standard 110v GFCI duplex outlets. Bottom of box 3'-6" (1.1 m) above floor. Hot and cold water; sewer and vent. N/A N/A N/A
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	Dependent upon size and number of crews 8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Ceramic tile on mortar bed. Gypsum wallboard with acrylic enamel paint. 4'-0" ceramic (1.2 m) tile wainscot and gypsum wallboard with acrylic enamel paint. HC Metal or SC Wood door with louver in PMF. Standard toilet room fixtures and accessories; floor drain (s)
Remarks	Walls must be constructed on 6" high concrete curbs. Gang sinks @ sub shops. Gang sinks preferred at Maintenance Stations with multiple crews.	



Name	Women's Restroom		Category: Office Building Space
Description	Self-explanatory.		
Space Allocation	Standard Allocation:	One per office building	
	Special Justification Required?	No	
	Designed for:	N/A	
	Related Spaces:	Corridor or vestibule, locker rooms. Must be accessible to rest of building.	
Code Information	CBC "Occupancy" Classification:	B	
	CBC "Occupant Load" Factor:	N/A	
	CBC or Title 24 Special Design Requirements:	Handicap accessibility	
	Mechanical And Electrical Systems	Heating, Ventilation, and Cooling System:	Exhaust fan; exhaust minimum 10 air changes per hour. Supply air provided from other conditioned interior space through door louvers or jumper duct, and may require fire dampers.
Lighting Level:		20 fc general illumination @ floor Lighting and exhaust fan activated by motion sensor.	
Electrical Power:		Two standard 110v GFCI duplex outlets. Bottom of box 3'-6" (1.1 m) above floor.	
Plumbing:		Hot and cold water; sewer and vent.	
Telephone:		N/A	
Radio/ Speaker:		N/A	
Telecommunication		N/A	
Special Requirements		Hazards:	None noted
Area and Height Standards	Standard Floor Area:	Dependent upon size and number of crews	
	Minimum Ceiling Height:	8'-0" (2.44m)	
Materials And Finishes	Floor:	Ceramic tile on mortar bed.	
	Ceiling:	Gypsum wallboard with acrylic enamel paint.	
	Wall:	4'-0" (1.2 m) ceramic tile wainscot and gypsum wallboard with acrylic enamel paint.	
	Door:	HC Metal or SC Wood door with louver in PMF.	
Remarks	Furnishings:	Standard toilet room fixtures and accessories; floor drain (s)	
	Walls must be constructed on 6" (15.2 cm) high concrete curbs. At one and two crew stations, locker space may be contiguous to the restroom area. Gang sinks @ sub shops. Gang sinks preferred at Maintenance Stations with multiple crews.		



Name	Area Superintendent's Office		Category: Office Building Space
Description	Office space for Area Superintendent, whose duties include administration and management of Maintenance Stations located within the specific area.		
Space Allocation	Standard Allocation:	One per office building	
	Special Justification Required?	No	
	Designed for:	1 Person (s) Space	
	Related Spaces:	Clerical Space; Office Supplies Closet.	
Code Information	CBC "Occupancy" Classification:	B	
	CBC "Occupant Load" Factor:	One Occupant per 100 SF (9.3 m ²)	
	CBC or Title 24 Special Design Requirements:	None noted	
	Mechanical And Electrical Systems	Heating, Ventilation, and Cooling System:	Central HVAC or wall mounted air conditioner and/or heater. See Part 2, Section 1, <u>“Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)”</u> (b) Mechanical Venting.
	Lighting Level:	60 fc general illumination @ -2'-6" (76.2 cm) workplane without windows. 40 fc. General illumination @ 2'-6" (76.2 cm) workplane with windows.	
	Electrical Power:	110 v duplex outlet at 8'-0" (2.44 m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor. Provide one isolated ground type 110v duplex outlets on one dedicated circuit for computers.	
	Plumbing:	N/A	
	Telephone:	Two telephone outlets. Two data outlets.	
	Radio/ Speaker:	One 4” x 4” (10.2 cm x 10.2 cm) junction box	
	Telecommunication:	Internet LAN	
Special Requirements	Hazards:	None noted	
Area and Height Standards	Standard Floor Area:	130 SF (12.1 m ²)	
	Minimum Ceiling Height:	8'-0" (2.44 m)	
Materials And Finishes	Floor:	Resilient tile, standard commercial grade; resilient base.	
	Ceiling:	Suspended T-bar acoustical ceiling; gypsum wallboard with acrylic enamel paint.	
	Wall:	Gypsum wallboard with semi-gloss acrylic enamel paint	
	Door:	HC Metal or SC Wood in PMF, visions panel optional.	
	Furnishings:	Venetian blinds on window; 4'x4' (1.2 m x 1.2m) whiteboard; 4'x4' (1.2 m x 1.2 m) tackboard.	
Remarks	This office may be considered for incorporation in the Regional Manager's Office building if located at the Maintenance Station Site.		

Part 2, Section IV



Name	Vestibule Between Office and Equipment Space	Category: Maintenance Office Building Space
Description	Internal Passage way between Maintenance Office and Equipment Bays. Serves as an air lock to prevent the passage of fumes from equipment to office area.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per Maintenance Office Yes N/A Equipment Bays and Office Spaces
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	B N/A Must have self-closing doors with weather-stripping. Must have separate air supply that runs continuously and makes the Vestibule have a positive air pressure relative to the Equipment Bays.
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i> <i>Telecommunication:</i>	Supply air must maintain a positive pressure relative to adjacent spaces. Should supply minimum 15 air changes per hour. 20 fc general illumination @ floor One 110v duplex outlet with bottom of box 1'- 6" (45.7 cm) above floor. N/A N/A N/A N/A
Special Requirements	<i>Hazards:</i>	Potential hazardous atmosphere
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	80 SF (7.4 m ²) 8'-0" (2.44 m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Resilient tile, standard commercial grade; resilient base. Gypsum wallboard with acrylic enamel paint. Gypsum wallboard with semi-gloss acrylic enamel paint HC Metal or SC Wood in PMF with weather-stripping. N/A
Remarks		



Name	Supervisor/Leadworker Office	Category: Maintenance Office Building Space
Description	Office space for crew Supervisor and Leadworker; duties include scheduling work for the crew and other administrative functions.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per crew No 2 Person (s) per Space Crew Room
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	B One Occupant per 100 SF (9.3 m ²) None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i> <i>Telecommunication:</i>	Central HVAC. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting. 60fc general illumination @ -2'-6" (76.2 cm) workplane without windows. 40 fc general illumination @ -2'-6" (76.2 cm) workplane with windows. 110v duplex outlets at -8'-0" (2.44 m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor. One dedicated circuit with isolated ground type 110v outlet for each computer. N/A One telephone outlet, one machine outlet, One 4" x 4" (10.2 cm x 10.2 cm) junction box Internet LAN
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	120 SF (11.1 m ²) +40SF (3.72 m ²) 1 st leadworker + 40SF (3.72 m ²) for each additional leadworker. (1 leadworker 160 SF (14.9 m ²); 2 leadworkers 160+40 =200SF (18.6 m ²) 8'-0" (2.44 m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Resilient tile, standard commercial grade; resilient base. Suspended T-bar acoustical ceiling or gypsum wallboard with acrylic enamel paint. Gypsum wallboard with semi-gloss acrylic enamel paint HC Metal or SC Wood in PMF, visions panel optional. Venetian blinds on windows; 4'x4' (1.2 m x 1.2 m) whiteboard; 4'x4' (1.2 m x 1.2 m) tackboard.
Remarks	Typical space has two desks, a personal computer on a network, FAX machine, and often a copier.	



Name	Crew Room	<i>Category:</i> Maintenance Office Building Space
Description	Crews meet at beginning of workday to discuss daily work schedule and safety requirements.	
Space Allocation	<i>Standard Allocation:</i>	One per crew
	<i>Special Justification Required?</i>	No
	<i>Designed for:</i>	12 Person (s) per Space
	<i>Related Spaces:</i>	Locker Room
Code Information	<i>CBC "Occupancy" Classification:</i>	B
	<i>CBC "Occupant Load" Factor:</i>	One Occupant per 15 SF
	<i>CBC or Title 24 Special Design Requirements:</i>	None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i>	Central HVAC. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting.
	<i>Lighting Level:</i>	30 fc general illumination @ 2'-6" (76.2 cm)
	<i>Electrical Power:</i>	workplane 110v duplex outlet at 8"-0" (2.44 m) max. spacing with bottom of box 1'-6" (45.7 cm) above floor.
	<i>Plumbing:</i>	
	<i>Telephone:</i>	N/A
	<i>Radio/ Speaker:</i>	One telephone outlet.
	<i>Telecommunication:</i>	One 4" x 4" (10.2 cm x 10.2 cm) junction box. One data outlet.
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i>	200 SF (18.6 m ²) + 15 SF (1.4 m ²) per additional person over 12 persons.
	<i>Minimum Ceiling Height:</i>	8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i>	Resilient tile, standard commercial grade; resilient base.
	<i>Ceiling:</i>	Suspended T-bar acoustical ceiling or gypsum wallboard with acrylic enamel paint.
	<i>Wall:</i>	Gypsum wallboard with semi-gloss acrylic enamel paint
	<i>Door:</i>	HC Metal or SC Wood in PMF, visions panel optional.
	<i>Furnishings:</i>	4'x4' (1.2 m x 1.2m) whiteboard; 4'x4' (1.2 m x 1.2 m) tackboard.
Remarks	Must meet staff size needs. Accordion doors are optional for multiple crews who would like to convert multiple crew rooms to one large room.	



Name	Locker Room	Category: Maintenance Office Building Space
Description	Change room for maintenance workers. Change room for mechanics at sub shops.	
Space Allocation	<i>Standard Allocation:</i>	Two per Maintenance Office.
	<i>Special Justification Required?</i>	No
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	Restroom; Crew Rooms.
Code Information	<i>CBC "Occupancy" Classification:</i>	B
	<i>CBC "Occupant Load" Factor:</i>	One Occupant per 50 SF (4.6m ²)
	<i>CBC or Title 24 Special Design Requirements:</i>	Two exits when serving 30 or more people.
	<i>Heating, Ventilation, and Cooling System:</i>	Interlocked with light switch, exhaust fan; exhaust minimum 10 air changes per hour. Supply air provided from HVAC system and adjacent space other than restroom through door louver or jumper duct, and may require fire dampers.
Mechanical And Electrical Systems	<i>Lighting Level:</i>	30 fc general illumination @ floor.
	<i>Electrical Power:</i>	110v duplex outlet at 8'-0" (2.44 m) max. spacing; bottom of box 1' 6" (45.7 cm) above floor.
	<i>Plumbing:</i>	N/A
	<i>Telephone:</i>	N/A
	<i>Radio/Speaker</i>	N/A
	<i>Telecommunication:</i>	N/A
	<i>Hazards:</i>	None noted
Special Requirements		
Area and Height Standards	<i>Standard Floor Area:</i>	Dependent upon size and number of crews
	<i>Minimum Ceiling Height:</i>	8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i>	Resilient tile, standard commercial grade; resilient base.
	<i>Ceiling:</i>	Gypsum wallboard with acrylic enamel paint.
	<i>Wall:</i>	Gypsum wallboard with semi-gloss acrylic enamel paint
	<i>Door:</i>	(Two) HC Metal or SC Wood in PMF.
	<i>Furnishings:</i>	15"x18"x5' (45.7 cm x 45.7 cm x 1.5m) metal wardrobe locker with sloped top, one per person. 10" wide x 18" high, (25.4 cm wide x 45.7 cm high) and a movable wooden bench in front of lockers.
Remarks	Should be located adjacent to restroom; door to restroom must have self-closer and no louvers; door to Crew Room or other access should have louvers. In one-and two-crew stations, lockers could be in an anteroom open to the restroom area. For crews that handle hazardous materials or chemical spray, a clothes pole may be provided.	



Name	Shower Room	Category: Maintenance Office Building Space
Description	Shower to wash off. Mandated by CAL OSHA.	
Space Allocation	<i>Standard Allocation:</i>	At least one per Maintenance Office. See below
	<i>Special Justification Required?</i>	No
	<i>Designed for:</i>	1 Person (s) Space
	<i>Related Spaces:</i>	Locker Rooms.
Code	<i>CBC "Occupancy" Classification:</i>	B
Information	<i>CBC "Occupant Load" Factor:</i>	N/A
	<i>CBC or Title 24 Special Design</i>	
	<i>Requirements:</i>	Handicap accessibility
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i>	Combination ceiling-mounted heat/light/exhaust fan; exhaust minimum 10 air changes per hour. Supply air provided through door louver from adjacent space.
	<i>Lighting Level:</i>	30 fc general illumination @ floor.
	<i>Electrical Power:</i>	N/A
	<i>Plumbing:</i>	Hot and cold water, sewer and vent
	<i>Telephone:</i>	N/A
	<i>Radio/ Speaker:</i>	N/A
	<i>Telecommunication:</i>	N/A
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i>	80 SF (7.4m ²)
	<i>Minimum Ceiling Height:</i>	8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i>	Ceramic tile on mortar bed; tile base.
	<i>Ceiling:</i>	Gypsum wallboard with acrylic enamel paint.
	<i>Wall:</i>	Gypsum wallboard with acrylic enamel paint
	<i>Door:</i>	HC Metal or SC Wood door, with louver, in PMF.
	<i>Furnishings:</i>	Single-piece fiberglass shower on pre-cast concrete base. Mirror, fold-down seat, two clothes hook, shelf 5'-0" (1.5 m) above floor.
Remarks	In one or two-crew stations, a unisex shower will be provided. Typically, separate men and women's showers are installed in stations with more than 2 crews.	



Name	Utility Cove	Category: Maintenance Office Building Space
Description	Space for coffee maker, microwave oven, and refrigerator.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per Maintenance Office. No N/A None noted
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	B N/A) None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i> <i>Telecommunication:</i>	Central HVAC. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting. 50 fc general illumination @ 3'-0" (91.4 cm) workplane. Pair 110V GFCI duplex outlets mounted 3-6" (1.1 m) above floor, plus refrigerator and garbage disposal outlets. Hot and cold water, waste and vent N/A N/A N/A
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	30 SF (2.8m ²) cove for one crew or 100 SF (9.3 m ²) for two or more crew station. 8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Resilient tile, standard commercial grade; resilient base. Gypsum wallboard with acrylic enamel paint. Gypsum wallboard with semi-gloss acrylic enamel paint Open to adjacent space. Cabinet base and countertop with cabinet above. Small sink.
Remarks	Doors on lower cabinets. Utility Cove should be part of a room.	



Name	Supply Storage Room	Category: Maintenance Office Building Space
Description	General office supply storage; miscellaneous paper materials; office equipment, like fax, copier, and supplies.	
Space Allocation	<i>Standard Allocation:</i>	One per Maintenance Office.
	<i>Special Justification Required?</i>	No
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	Office
Code Information	<i>CBC "Occupancy" Classification:</i>	B
	<i>CBC "Occupant Load" Factor:</i>	N/A
	<i>CBC or Title 24 Special Design</i>	
	<i>Requirements:</i>	None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i>	same as Building
	<i>Lighting Level:</i>	20 fc general illumination @ floor.
	<i>Electrical Power:</i>	Four 110v duplex outlets bottom of box 1'-6" (45.7 cm) above floor.
	<i>Plumbing:</i>	N/A
	<i>Telephone:</i>	N/A
	<i>Radio/ Speaker:</i>	N/A
	<i>Telecommunication:</i>	N/A
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i>	100 SF (9.3m ²)
	<i>Minimum Ceiling Height:</i>	8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i>	Resilient tile, standard commercial grade; resilient base.
	<i>Ceiling:</i>	Gypsum wallboard with acrylic enamel paint.
	<i>Wall:</i>	Gypsum wallboard with semi-gloss acrylic enamel paint
	<i>Door:</i>	HC Metal or SC Wood in PMF.
	<i>Furnishings:</i>	Floor to ceiling shelves on one wall.
Remarks	Space provided is for commonly used office materials and equipment.	



Name	District Irrigation Control Room/ Alcove	Category: Maintenance Office Building Space
Description	Command post for monitoring irrigation operation in major metropolitan areas. Alcove for Remote Irrigation Control System (RICS) system computer and operator.	
Space Allocation	<i>Standard Allocation:</i>	As required by district.
	<i>Special Justification Required?</i>	Yes, requires part time personnel operating irrigation system
	<i>Designed for:</i> <i>Related Spaces:</i>	1 person per space Radio Tower/Supervisor's Office
Code Information	<i>CBC "Occupancy" Classification:</i>	B
	<i>CBC "Occupant Load" Factor:</i>	One Occupant per 100 SF (9.3m ²)
	<i>CBC or Title 24 Special Design Requirements:</i>	None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i>	Central HVAC. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting.
	<i>Lighting Level:</i>	60 fc general illumination @ 3'-0" (91.4 cm) workplane.
	<i>Electrical Power:</i>	110v duplex outlets 8'-0" (2.44 m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor. Provide one (1) isolated ground-type 110v duplex outlet on a dedicated circuit for computer.
	<i>Plumbing:</i>	N/A
	<i>Telephone:</i>	One telephone outlet, one data outlet.
	<i>Radio/ Speaker:</i>	One 4" x 4" junction box
Special Requirements	<i>Telecommunication</i>	Intranet LAN.
	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i>	80 SF (7.4m ²)
	<i>Minimum Ceiling Height:</i>	8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i>	Resilient tile, standard commercial grade; resilient base.
	<i>Ceiling:</i>	Suspended T-bar acoustical ceiling or gypsum wallboard with acrylic enamel paint.
	<i>Wall:</i>	Gypsum wallboard with semi-gloss acrylic enamel paint
	<i>Door:</i>	HC Metal or SC Wood in PMF, vision panels optional.
	<i>Furnishings:</i>	Venetian blinds on windows; 4'x4' (1.2 m x 1.2 m) whiteboard; 4'x4' (1.2 m x 1.2 m) tackboard.
Remarks	For full time dedicated irrigation specialist provide office. See section 1 "Generic Office"	

Part 2, Section V



Name	Equipment Service Bay	Category: Equipment and Storage Building Space
Description	Vehicle oil change and lube; minor repair and preventive maintenance on vehicles and equipment.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	See equipment shop requirements No N/A Utility room, Mechanic's Room, Parts Storage, Waste Oil storage pad.
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	H-4 One Occupant per 200 SF (18.6m ²) <u>CBC Sec. 3802 (F)2:</u> Fire extinguisher, Min. 2A-10BC Exhaust system with supply air louvers in door or wall opposite; exhaust air grilles and supply air louvers located within 18" (45.7 cm) from the floor. Emergency eyewash and shower located near exit. Automatic Fire Extinguisher System if H4 building area exceeds 3,000 SF. (278 m ²).
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i> <i>Telecommunication:</i>	Radiant heating system-either high-intensity, low-intensity, or hydronically heated floor slab, and forced air heaters if required; evaporative cooler, one per bay. 50 fc general illumination @ floor; 75 fc @ 3'-0" (91.4 cm) workplane at workbenches. 110v Multi-outlets at each workbench and additional 110v Duplex outlets at 8'-0" (2.44 m) max. spacing; Two 208V, 3 phase outlets for every two bays ; bottom of all outlets at 3'-6" (1.1 m) above floor. Lube lines surface mounting along back wall from lube drums/compressor to lube-reels. Water and air lines surface-mounted on back wall above workbenches; individual tap at each bench. Gas for radiant heater. Water for evaporative cooler and electric water cooler. Fire sprinkler piping when required. One telephone outlet, one data outlet per 3 bays One 4" x4" (10.2 cm x 10.2 cm) junction box. Internet LAN – 2 Outlets
Special Requirements	<i>Hazards:</i>	Potential hazardous atmosphere, toxic chemicals. Provide eyewash or shower nearby.
Area and Height Standards	<i>Standard Floor Area:</i> <i>Ceiling Height:</i>	25'x55' (7.61mx16.76m) clear interior, 1,375 SF (127.7m ²). 17'-0" (5.10m) Additional height requires justification

Name	Equipment Service Bay (continued)	Category: Equipment and Storage Building Space
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Exposed concrete with surface hardener and sealer. Exposed, vapor barrier from batt insulation and steel framing. Exposed CMU with seal coat; 1/2" plywood paneling with stain or paint. *Metal Sectional Overhead Door 14'Wx15'H; (4.3 m wide x 4.6 m high) HC Metal or SC Wood door in PMF. Portable vehicle lift, portable lubrication system, waste oil pick-up, workbench, 4'x4' (1.2 m x 1.2 m) tackboard, and air and water supply on back wall.
Remarks	<p>Two bays for one full-time mechanic; three, two full-time.</p> <p>*Equipment Service Bays must have two exits (vehicle door is not an exit) if area is 1000 sf or more. Use two, through-wall exhaust fans per bay with supply air louver in ceiling at center of bay. Optional overhead 3T (2.7 MT) Bridge Crane persuasive justification and program approval.</p>	



Name	Equipment Storage Bay	Category: Equipment and Storage Building Space
Description	Storage of equipment and vehicles; minor repair and maintenance.	
Space Allocation	Standard Allocation:	One per crew.
	Special Justification Required?	No
	Designed for:	N/A
	Related Spaces:	Vehicle Service Bay
Code Information	CBC "Occupancy" Classification:	S – 3, No welding, or fuel dispensing
	CBC "Occupant Load" Factor:	One Occupant per 200 SF (18.6m ²)
	CBC or Title 24 Special Design Requirements:	One fire extinguisher (min. 2A – 10BC) per three bays. Exhaust system with supply air louvers in door or wall opposite; exhaust air grilles and supply air louvers located within 18" (45.7 cm) from the floor.
Mechanical And Electrical Systems	Heating, Ventilation, and Cooling System:	Radiant heating system-either high intensity, low intensity, or hydronically heated floor slab and forced-air heaters if required; evaporative cooler, one per bay.
	Lighting Level:	50 fc general illumination @ floor; 75 fc @ 3'-0" (91.4 cm) workplane at workbenches.
	Electrical Power:	110v Multi-outlets at each workbench and 110v duplex outlets at 8'-0" (2.44 m) max. spacing; one portable vehicle lift outlet per two bays, bottom of all outlets at 3'-6" (1.1 m) above floor.
	Plumbing:	Water and airlines surface-mounted on back wall above workbenches; individual tap at each bench. Gas for radiant heater. Water for evaporative cooler and electric water cooler.
	Telephone:	N/A
	Radio/ Speaker:	One 4" x 4" (10.2 cm x 10.2 cm) junction box
	Telecommunication:	N/A
Special Requirements	Hazards:	Potential hazardous atmosphere, toxic chemicals.
Area and Height Standards	Standard Floor Area:	20'x45' clear interior, 900 SF (83.6m ²)
	Minimum Ceiling Height:	17'-0" (5.18m)
Materials And Finishes	Floor:	Exposed concrete with surface hardener and sealer.
	Ceiling:	Exposed plastic vapor barriers from batt insulation and steel framing.
	Wall:	Exposed CMU with seal coat; 1/2" plywood paneling with stain or paint.
	Door:	*Metal Sectional Overhead Door 14'Wx15'H (4.3 m wide x 4.6 m high) typical. 16'Wx15'H at stations that house equipment with wingplows.
	Furnishings:	Workbench each bays, and air and water supply on back wall. One 4'x4' (1.2 m x 1.2 m) tackboard per three bays. One ice machine.
Remarks	*Equipment Bays must have an exit (vehicle door is not an exit).	



Name	Special Crew Shop	Category: Equipment and Storage Building Space
Description	Workshop area for Special Crew. Function varies depending on crew type and their activities. (Electrical, sign, bridge, landscape, etc.)	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per special crew. Yes 12 Person (s) per Space Maintenance Offices, Special Crew Storage, Utility Room and Restroom.
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	S-3 One Occupant per 100 SF (9.3 m ²) Depends of Special Crew activities.
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i> <i>Telecommunication:</i>	Dependent upon Special Crew activities. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting. 50 fc general illumination @ floor; 75 fc @ 3'-0" (91.4 cm) workplane at workbenches. Depends on Special Crew activities. Verify power requirements. Water and airlines surface-mounted on back wall above workbenches; individual tap at each bench. Gas for radiant heater. Water for evaporative cooler and electric water cooler. Two telephone outlets. One 4" x 4" (10.2 cm x 10.2 cm) junction box N/A
Special Requirements	<i>Hazards:</i>	Dependent upon Special Crew activities.
Area and Height Standards	<i>Standard Floor Area:</i> <i>Ceiling Height:</i>	900 SF (83.61m ²), clear interior 10'-0" (3.7 m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Exposed concrete with surface hardener and sealer, resilient base. Suspended T-bar acoustical ceiling or gypsum wallboard with acrylic enamel paint. Exposed CMU with seal coat; 1/2" plywood paneling with stain or paint. HC Metal or SC Wood door in PMF, vision panels optional. Dependent upon activities of crew.
Remarks	May have enclosed office in this space. May have 10'Wx10'H (3.1 m wide x 3.1 m high) vehicle door.	



Name	Special Crew Storage	Category: Equipment and Storage Building Space
Description	Storage of materials for Special Crew operations. (Elect, signs, bridge, landscape, etc)	
Space Allocation	Standard Allocation:	One per special crew.
	Special Justification Required?	Yes
	Designed for:	N/A
	Related Spaces:	Special Crew Shop
Code Information	CBC "Occupancy" Classification:	S-3
	CBC "Occupant Load" Factor:	N/A
	CBC or Title 24 Special Design Requirements:	Depends on Special Crew activities.
	Heating, Ventilation, and Cooling System:	Gravity ventilator with backdraft damper and chain operator; power ventilator with damper in warm climates; or exhaust fan. See Part 2, Section 1, <u>"Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)"</u> (b) Mechanical Venting.
Mechanical And Electrical Systems	Lighting Level:	20 fc general illumination @ floor; 75 fc @ 3'-0" (91.4 cm) workplane if workbenches are present.
	Electrical Power:	110v duplex outlet at 8'-0" (2.44 m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor. Multi-Outlets over work benches as needed.
	Plumbing:	N/A
	Telephone:	N/A
	Radio/ Speaker:	N/A
	Telecommunication:	N/A
	Hazards:	Dependent upon Special Crew activities.
Special Requirements		
Area and Height Standards	Standard Floor Area:	450 SF (41.8m ²)
	Ceiling Height:*	10'-0" (2.44m)
Materials And Finishes	Floor:	Exposed concrete with sealer, resilient base.
	Ceiling:	Gypsum wallboard with acrylic enamel paint. Exposed CMU with seal coat; 1/2" plywood paneling with stain or paint.
	Wall:	
	Door:	HC Metal or SC Wood door in PMF..
Remarks	Furnishings:	Dependent upon Special Crew activities.
	*May vary with height of adjoining spaces. Must be justified for space beyond the initial bay.	



Name	Crew Secure Storage	Category: Equipment and Storage Building Space
Description	Storage for hand-held, manual, or power tools used by workers. At subshops, parts room is available for secure storage.	
Space Allocation	<i>Standard Allocation:</i>	One per crew.
	<i>Special Justification Required?</i>	No
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	Equipment Storage Bay
Code	<i>CBC "Occupancy" Classification:</i>	S-3
Information	<i>CBC "Occupant Load" Factor:</i>	N/A
	<i>CBC or Title 24 Special Design Requirements:</i>	
	N/A	
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i>	
	N/A, ventilation required when occupied	
	<i>Lighting Level:</i>	20 fc general illumination @ floor.
	<i>Electrical Power:</i>	Two 110v duplex outlets; bottom of box 1'-6" (45.7 cm) above floor.
	<i>Plumbing:</i>	N/A
	<i>Telephone:</i>	N/A
	<i>Radio/ Speaker:</i>	N/A
Special Requirements	<i>Telecommunication:</i>	N/A
	<i>Hazards:</i>	None noted.
Area and Height Standards	<i>Standard Floor Area:</i>	240 SF (22.3m ²)
	<i>Minimum Ceiling Height:*</i>	10'-0" (2.44m)
Materials And Finishes	<i>Floor:</i>	Exposed concrete with sealer, resilient base.
	<i>Ceiling:</i>	Gypsum wallboard with acrylic enamel paint
	<i>Wall:</i>	1/2" plywood paneling with stain or paint.
	<i>Door:</i>	HC Metal or SC Wood door in PMF.
	<i>Furnishings:</i>	Floor to ceiling shelves along one wall.
Remarks	Typically the door for this room opens into an Equipment Storage Bay; if desired it can open to the building exterior. Special attention required for door security hardware.	
	*May vary with height of adjoining spaces	



Name	Equipment Small Parts Storage	Category: Equipment and Storage Building Space
Description	Storage for small parts (fan belts, points, plugs, air filters, oil filters, spare lights, etc.) for vehicle and equipment maintenance for "traveling" mechanics.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per station with "traveling" mechanic. No N/A Equipment Storage Bay
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	S-3 N/A N/A
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speakers:</i> <i>Telecommunication:</i>	Louvered ventilation 20 fc general illumination @ floor of storage, One 110v duplex outlet; bottom of box 1'-6" (45.7 cm) above floor at 8'-0" o.c. (2.44 m) max spacing. N/A One outlet N/A N/A
Special Requirements	<i>Hazards:</i>	None noted.
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	120 SF (11.1m ²) for station with traveling mechanic 8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Exposed concrete with sealer, resilient base. Gypsum wallboard with acrylic enamel paint 1/2" plywood paneling with stain or paint. HC Metal or SC Wood door in PMF. Floor to ceiling shelves along one wall.
Remarks	Typically the door for this room opens into an Equipment Service Bay; if desired it can open to the building exterior. Special justification required for door security hardware.	



Name	Resident Mechanic's Small Parts Storage and Office	Category: Equipment and Storage Building Space
Description	Space for resident mechanic. Office space, storage of small tools, parts, and items under repair.	
Space Allocation	Standard Allocation:	One per station with resident mechanic
	Special Justification Required?	No
	Designed for:	2 Person (s) per space
	Related Spaces:	Vehicle Service Bay, equipment, small parts storage.
Code Information	CBC "Occupancy" Classification:	B or H-4
	CBC "Occupant Load" Factor:	One Occupant per 100 SF (9.3 m ²)
	CBC or Title 24 Special Design Requirements:	Automatic Fire Extinguisher System if H-4 building area exceeds 3,000 SF (279m ²)
	Heating, Ventilation, and Cooling System:	Gas-fired space heater,. Cooling may be provided, if required, by wall mounted or central HVAC system. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting.
Mechanical And Electrical Systems	Lighting Level:	50 fc general illumination @ floor; 75 fc @ 3'-0" (91.4 cm) workplane at workbenches.
	Electrical Power:	110v duplex outlets at 8'-0"(2.44 m) max. spacing, bottom of box 1'-6" (45.7 cm) above floor."
	Plumbing:	Water and air lines surface-mounted on wall, above workbenches. Gas for heater. Fire sprinklers piping when required.
	Telephone:	Two telephone outlet; one data outlet.
	Radio/ Speaker:	One 4" x 4" (10.2 cm x 10.2 cm) Junction Box
Special Requirements	Telecommunication:	Ethernet LAN
	Hazards:	Potential hazardous atmosphere. Toxic chemicals.
Area and Height Standards	Standard Floor Area:	240 SF (22.3m ²) total office & storage room
	Minimum Ceiling Height:	8'-0" (2.44m)
Materials And Finishes	Floor:	Exposed concrete with sealer, resilient base.
	Ceiling:	Gypsum wallboard with acrylic enamel paint
	Wall:	1/2" plywood paneling with stain or paint.
	Door:	HC Metal or SC Wood door in PMF.
	Furnishings:	4'x4' (1.2 m x 1.2 m) whiteboard, 4'x4' (1.2 m x 1.2 m) tackboard. Computer desk.
Remarks	Add 40 SF for a second full-time mechanic. Include only at stations where there is a full-time, resident mechanic, or field mechanic w/justification. Provide tire storage, if justified, which may be covered or attached to building. Storage for 1-3 crews: 160 SF; 4 or more crews: 320 SF.	



Name	Utility Room	Category: Equipment and Storage Building Space
Description	Space for an air compressor, bulk lube drum(s),	
Space Allocation	<i>Standard Allocation:</i>	One per Maintenance Station
	<i>Special Justification Required?</i>	No
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	Equipment Service Bay
Code Information	<i>CBC "Occupancy" Classification:</i>	B
	<i>CBC "Occupant Load" Factor:</i>	One Occupant per 200 SF (18.6m ²)
	<i>CBC or Title 24 Special Design Requirements:</i>	None noted
	<i>Heating, Ventilation, and Cooling System:</i>	Louvered ventilation
Mechanical And Electrical Systems	<i>Lighting Level:</i>	30 fc general illumination @ floor.
	<i>Electrical Power:</i>	110v duplex outlets at 8'-0" (2.44 m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor.
	<i>Plumbing:</i>	Air lines for compressor and lube drums surface-mounted on interior wall. Fire sprinkler piping when required.
	<i>Telephone:</i>	N/A
	<i>Radio/ Speaker:</i>	N/A
	<i>Telecommunication:</i>	N/A
Special Requirements	<i>Hazards:</i>	Potential hazardous atmosphere.
Area and Height Standards	<i>Standard Floor Area:</i>	130 SF (12.1m ²)
	<i>Minimum Ceiling Height:</i>	8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i>	Exposed concrete with sealer, resilient base.
	<i>Ceiling:</i>	Gypsum wallboard with acrylic enamel paint
	<i>Wall:</i>	1/2" plywood paneling with stain or paint.
	<i>Door:</i>	Pair of HC Metal or SC Wood doors with louvers in PMF.
	<i>Furnishings:</i>	N/A
Remarks	Should be located next to mechanic bays.	

Part 2, Section VI



Name	Special Programs Office		Category: Special Programs Building Space
Description	Supervisors office portion of building of the facility for court referral workers.		
Space Allocation	Standard Allocation:	One per maintenance station with special program crew.	
	Special Justification Required?	No	
	Designed for:	N/A	
	Related Spaces:	N/A	
Code Information	CBC "Occupancy" Classification:	B	
	CBC "Occupant Load" Factor:	One occupant per 100sf (9.3 m²)	
	CBC or Title 24 Special Design Requirements:	None Noted	
	Heating, Ventilation, and Cooling System:	Wall-mounted A/C and/or heater. See Part 2, Section 1, <u>“Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)”</u> (b) Mechanical Venting.	
Mechanical And Electrical Systems	Lighting Level:	50fc general illumination @ 2’-6” (0.76 m) workplane w/o windows, 30fc w/windows.	
	Electrical Power:	110v duplex outlets @ 8’-0” (2.44m) max. spacing. One dedicated circuit w/isolated ground- type 110v outlet for computer.	
	Plumbing:	N/A	
	Telephone:	One outlet	
Special Requirements	Radio/ Speaker:	One 4" x4" (10.2 cm x 10.2 cm) junction box.	
	Telecommunications:	Ethernet LAN	
	Hazards:	None noted	
	Standard Floor Area:	See diagram in appendix	
Area and Height Standards	Minimum Ceiling Height:	8’-0” (2.44m)	
	Floor:	Exposed concrete with surface hardener and sealer.	
Materials And Finishes	Ceiling:	Exposed plastic vapors barrier from batt insulation and steel framing.	
	Wall:	Exposed CMU with seal coat; 1/2’’ plywood paneling with stain or paint.	
	Door:	HC Metal or SC Wood door in PMF.	
	Furnishings:	N/A	
Remarks			



Name	Special Programs Storage		Category: Special Programs Building Space
Description	Storage space for court referral workers.		
Space Allocation	Standard Allocation:	One per maintenance station with special program crew.	
	Special Justification Required?	No	
	Designed for:	N/A	
	Related Spaces:	N/A	
Code Information	CBC "Occupancy" Classification:	B	
	CBC "Occupant Load" Factor:	One occupant per 100sf (9.3 m ²)	
	CBC or Title 24 Special Design Requirements:	None Noted	
	Heating, Ventilation, and Cooling System:	Wall-mounted A/C and/or heater. See Part 2, Section 1, <u>“Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)”</u> (b) Mechanical Venting.	
Mechanical And Electrical Systems	Lighting Level:		
	Electrical Power:	50fc general illumination @ 2’-6” (0.76 m) workplane w/o windows, 30fc w/windows. 110v duplex outlets @ 8’-0” (2.44m) max. spacing. One dedicated circuit w/isolated ground- type 110v outlet for computer.	
	Plumbing:	Two unisex restrooms	
	Telephone:	N/A	
	Radio/ Speaker:	N/A	
	Telecommunications:	N/A	
	Hazards:	None noted	
	Area and Height Standards	Standard Floor Area:	200 SF + Restrooms
Materials And Finishes	Minimum Ceiling Height:	8’-0” (2.44m)	
	Floor:	Exposed concrete with surface hardener and sealer.	
	Ceiling:	Exposed plastic vapors barrier from batt insulation and steel framing.	
	Wall:	Exposed CMU with seal coat; 1/2’’ plywood paneling with stain or paint.	
	Door:	*Metal Sectional Overhead Door 6’Wx6’8’’H door. (1.8 m wide x 2.0 m high)	
	Furnishings:	N/A	
Remarks	*Optional in lieu of double hinged, mounted steel doors		



Name	Special Programs Assembly Area		Category: Special Programs Building Space
Description	Exterior assembly area for court referral worker crew.		
Space Allocation	Standard Allocation:	One per maintenance station with special program crew.	
	Special Justification Required?	No	
	Designed for:	N/A	
	Related Spaces:	N/A	
Code Information	CBC "Occupancy" Classification:	B	
	CBC "Occupant Load" Factor:	One occupant per 100sf (9.3 m²)	
	CBC or Title 24 Special Design Requirements:	None Noted	
	Heating, Ventilation, and Cooling System:	N/A	
Mechanical And Electrical Systems	Lighting Level:	N/A	
	Electrical Power:	N/A	
	Plumbing:	N/A	
	Telephone:	N/A	
	Radio/ Speaker:	N/A	
	Telecommunications:	N/A	
	Hazards:	None noted	
Special Requirements Area and Height Standards	Standard Floor Area:	Covered area of 10 SF (.93 m²) per person with 150 SF (13.95 m²) minimum	
	Minimum Ceiling Height:	8'-0" (2.44m)	
Materials And Finishes	Floor:	Exposed concrete with surface hardener and sealer.	
	Ceiling:	Exposed Canopy	
	Wall:	N/A	
	Door:	N/A	
	Furnishings:	N/A	
Remarks			

Part 2, Section VII



Name	District Warehouse Storage	Category: Warehouse Storage Building Space
Description	Quantity storage of bulk items and supplies for district operations.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per District yes N/A None noted
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	S-1, or S-2 One Occupant per 500 SF (46.4m ²) Two exits if floor area greater than 15,000 SF. (1,393.4m ²)
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/ Speaker:</i> <i>Telecommunication:</i>	Gravity ventilator with backdraft damper and chain operator, power ventilator with damper in warm climates. Supply air provided through louvers in wall. See Part 2, Section 1, " <u>Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)</u> " (b) Mechanical Venting.. 20 fc general illumination @ floor. 110v duplex outlets at 20'-0" (6.1 m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor. N/A N/A One 4" x 4" (10.2 cm x 10.2 cm) Junction Box N/A
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	Based on district storage needs 17'-0" (5.18m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Exposed concrete with surface hardener and sealer. Exposed plastic vapor barriers from batt insulation and steel framing. 1/2" plywood paneling with stain or paint. Metal door in PMF. Vehicle doors as required. Storage racks and shelves as required.
Remarks	There will be no loft storage in warehouse. Regional office Warehouses are no longer constructed. If justified, a regional warehouse maybe provided. (i.e. due to remoteness, etc)	



Name	District Warehouse Office	Category: Warehouse Storage Building Space
Description	Operation space for records and record keeping.	
Space Allocation	<i>Standard Allocation:</i> <i>Special Justification Required?</i> <i>Designed for:</i> <i>Related Spaces:</i>	One per District Warehouse Yes 2 Person (s) per space District Warehouse Storage Records Storage/Equipment Room
Code Information	<i>CBC "Occupancy" Classification:</i> <i>CBC "Occupant Load" Factor:</i> <i>CBC or Title 24 Special Design Requirements:</i>	B or accessory to primary occupancy One Occupant per 100 SF (9.3m ²) None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> <i>Lighting Level:</i> <i>Electrical Power:</i> <i>Plumbing:</i> <i>Telephone:</i> <i>Radio/Speaker:</i> <i>Telecommunication:</i>	Central HVAC or wall mounted air conditioner and /or heater on a case by case basis. See Part 2, Section 1, <u>"Mechanical Systems – Heating, Ventilation and Air Conditioning (HVAC)"</u> (b) Mechanical Venting. (40 fc/w/windows) or 60 fc (w/o windows) general illumination @ 2'-6" (76.2 cm) workplane. 110v duplex outlet at 8'-0" (2.44 m) max. spacing; bottom of box 1'-6" (45.7 cm) above floor. One 110v isolated ground- type duplex outlet for computer. As required for unisex restroom Two telephone outlet, one fax machine outlet. One 4" x 4" (10.2 cm x 10.2 cm) Junction Box Two data outlet
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i> <i>Minimum Ceiling Height:</i>	160 SF (14.9m ²) for 2 persons +40 SF (3.72m ²) for each additional person. 8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i> <i>Ceiling:</i> <i>Wall:</i> <i>Door:</i> <i>Furnishings:</i>	Exposed concrete with sealer; resilient base. Gypsum wallboard with acrylic enamel paint. Gypsum wallboard with acrylic enamel paint. Metal door in PMF, vision panel optional. 4'x4' (1.2 m x 1.2 m) whiteboard; 4'x4' (1.2 m x 1.2 m) tackboard.
Remarks		

Part 2, Section VIII



Name	Hazardous Materials Storage		Category: Appurtenant Building Space	
Description	This area is for the storage of hazardous materials that exhibit health or environmental hazards, per section 209-8 of CBC. This includes hazardous waste, corrosive, compressed gasses, oxidizers, radioactive materials, pesticides, flammables, and water reactive materials. This space is single purpose. Separate hazardous materials from hazardous waste.			
Space Allocation	Standard Allocation:	Dependent on chemical inventory		
	Special Justification Required?	Chemical inventory		
	Designed for:	N/A		
	Related Spaces:	None		
Code Information	CBC "Occupancy" Classification:	H-3		
	CBC "Occupant Load" Factor:	One occupant per 200 SF (18.6 m2)		
	CBC or Title 24 Special Design Requirements:	Dependent on chemical inventory. Refer to CBC H occupancy requirements. Contact Maintenance Hazardous Material Operations for assistance in definitions and classifications of materials.		
	Mechanical And Electrical Systems	Heating, Ventilation, and Cooling System:	Per California Fire and Mechanical Codes	
Mechanical And Electrical Systems	Lighting Level:	20fc general illumination @ floor.		
	Electrical Power:	Dependent on ventilation, alarm, and fire suppressant needs, Class I, Division I equipment and conductors may be required		
	Plumbing:	Dependent on fire suppressant needs. Emergency eyewash and safety showers available per Title 8 CCR. (California Code of Regulations)		
	Telephone:	N/A		
	Radio/ Speaker:	N/A		
	Telecommunication:	N/A		
	Special Requirements	Hazards:	Explosion and toxic chemical exposure Explosion-proof electrical equipment w/conduit seals may be required.	
	Area and Height Standards	Standard Floor Area:	As per storage requirements	
Minimum Ceiling Height:		8'-0" (2.44m)		
Materials And Finishes	Floor:	Exposed concrete with surface hardener and sealer. Corrosive resistant coating is dependent on chemical inventory		
	Ceiling:	Concrete waffle w/seal coat; fire code gypboard		
	Wall:	Exposed CMU with seal coat; exposed concrete with seal coat.		
	Door:	Metal door with louver in PMF.		
Materials And Finishes	Furnishings:	N/A		
	Remarks	Segregate hazardous materials appropriately by classification. Segregate hazardous waste from hazardous materials storage. Design for mixing rooms where applicable. Use modular units unless justified due to quantity. Justification is to include Material Safety Data Sheets (MSDS), storage quantity, and typical storage container.		



Name	Sand/Salt Storage Building	<i>Category:</i> Appurtenant Building Space
Description	Storage of loose sand and bulk de-icing chemicals	
Space Allocation	<i>Standard Allocation:</i>	N/A
	<i>Special Justification Required?</i>	Yes, to be included in PSR
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	None noted
Code Information	<i>CBC "Occupancy" Classification:</i>	S-2
	<i>CBC "Occupant Load" Factor:</i>	One Occupant per 500 SF (46.4m ²)
	<i>CBC or Title 24 Special Design Requirements:</i>	None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i>	Fan-driven exhaust with louvers.
	<i>Lighting Level:</i>	30fc general illumination @ floor.
	<i>Electrical Power:</i>	One 110v duplex outlet; bottom of box 3'-6" (1.07 m) above floor. One 110v, GFCI, exterior, weather proof, duplex outlet.
	<i>Plumbing:</i>	N/A
	<i>Telephone:</i>	N/A
	<i>Radio/ Speaker:</i>	N/A
	<i>Telecommunication:</i>	N/A
Special Requirements	<i>Hazards:</i>	Corrosive atmosphere. Use PVC conduits, fittings, junction and device boxes. Use fixtures with PVC housings. Epoxy coating shall be on reinforcing and galvanizing shall be on exposed bolts. Salt storage buildings require asphalt or epoxy coatings on wall surfaces.
Area and Height Standards	<i>Standard Floor Area:</i>	salt 200 tons 24'x40' (181 tons-metric, 7.3m x 12.2m) sand 800 tons 40'x60' (726 tons-metric, 12.2m x 18.3m) sand 1000 tons 40'x80' (907 tons-metric, 12.2m x 24.4m)
	<i>Ceiling Clearance Height:</i>	20'-0" (6.10m)
Materials And Finishes	<i>Floor:</i>	12" exposed concrete with surface hardener and sealer.
	<i>Ceiling:</i>	Exposed 1/2" (12.7mm) plywood paneling with acrylic enamel paint.
	<i>Wall:</i>	9' high, exposed concrete with surface hardener and sealer with protectively coated metal siding to roof.
	<i>Door:</i>	16' wide x 19' high (4.88 m wide x 5.79 m high) opening
	<i>Furnishings:</i>	N/A
Remarks	Sand/salt Storage buildings are exempt from ADA requirements. Provide bollards on inside and outside of vehicle doors to protect jambs. If roll-up door is justified a separate personnel door is required. Salt and sand storage may be combined.	



Name	High-Pressure Washer Room	Category: Appurtenant Building Space
Description	Protection for the high-pressure washer unit and the hoses and supplies associated with its operation of washing vehicles.	
Space Allocation	<i>Standard Allocation:</i>	One per washrack
	<i>Special Justification Required?</i>	No
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	Washrack
Code Information	<i>CBC "Occupancy" Classification:</i>	S-3
	<i>CBC "Occupant Load" Factor:</i>	N/A
	<i>CBC or Title 24 Special Design Requirements:</i>	
	Consider this space as a "boiler room." If this space is attached to the "B" or "H" occupancy, they must be separated by a one-hour wall;	
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i>	Provide outside air for combustion per California Mechanical Code. Louvered ventilation is adequate.
	<i>Lighting Level:</i>	20fc general illumination @ floor.
	<i>Electrical Power:</i>	One 110v GFCI duplex outlet; bottom of box 3'-6" (1.07 m) above floor. Verify power requirements for equipment.
	<i>Plumbing:</i>	1" (2.54 cm) minimum diameter water supply to cleaner unit. Gas supply to cleaner unit. Flue through roof.
	<i>Telephone:</i>	N/A
	<i>Radio/ Speaker:</i>	N/A
	<i>Telecommunication:</i>	N/A
	Special Requirements	<i>Hazards:</i> Hot equipment, toxic chemicals.
Area and Height Standards	<i>Standard Floor Area:</i>	80 SF (7.4m ²)
	<i>Minimum Ceiling Height:</i>	8'-0" (2.44m)
Materials And Finishes	<i>Floor:</i>	Exposed concrete with sealer.
	<i>Ceiling:</i>	Gypsum wallboard with acrylic enamel paint.
	<i>Wall:</i>	Exposed CMU with seal coat.
	<i>Door:</i>	Pair of 3'-6" (1.07 m) metal doors with louver in PMF.
	<i>Furnishings:</i>	N/A
Remarks	Must be located adjacent to washrack.	
	Washrack must be connected to sanitary sewer or other filtration system.	
	May be freestanding or attached to another building.	

Part 2, Section IX



Name	Covered Vehicle Wash Rack/ Mud Rinse	Category: Site Appurtenant Structures
Description	Covered concrete pad and water clarifier system used for washing dirt, oil, and chemicals off vehicles and equipment.	
Space Allocation	<i>Standard Allocation:</i>	One per Maintenance Station, described in PSR document. Tandem rinse slabs may be justified for metropolitan areas
	<i>Special Justification Required?</i>	Yes
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	High-pressure washer room Mudrinse pad for exterior rinse only. Water treatment system, approved by local Water Quality Control Board.
Code Information	<i>CBC "Occupancy" Classification:</i>	S-3 with canopy
	<i>CBC "Occupant Load" Factor:</i>	N/A
	<i>CBC or Title 24 Special Design Requirements:</i>	None noted
	<i>Heating, Ventilation, and Cooling System:</i>	N/A
Mechanical And Electrical Systems	<i>Lighting Level:</i>	10fc general illumination @ ground
	<i>Electrical Power:</i>	One 110v, GFCI, weatherproof duplex outlet.
	<i>Plumbing:</i>	Waste water treatment system.
	<i>Telephone:</i>	N/A
Special Requirements	<i>Radio/ Speaker:</i>	N/A
	<i>Telecommunication:</i>	N/A
	<i>Hazards:</i>	Pressurized hot water and cleaning chemicals.
	<i>Water Treatment:</i>	All rinse/wash water must pass through the water treatment system before being discharged into the sewer or water recycle system.
Area and Height Standards	<i>Standard Floor Area:</i>	37'x47' (11.28 m x 14.33 m) for mudrinse and washrack
	<i>Ceiling Clearance Height:</i>	20'-0" (6.1 m) ceiling.
	<i>Ceiling Clearance Height:</i>	18'-0" (5.5 m) portal height.
Materials And Finishes	<i>Floor:</i>	Exposed concrete with surface hardener and sealer.
	<i>Ceiling Clearance Height:</i>	N/A
	<i>Wall:</i>	None
	<i>Door:</i>	N/A
	<i>Furnishings:</i>	N/A
Remarks	Slope pad to drain to sump. Elevate slabs and slope surrounding grade away from pads to prevent stormwater from entering water treatment system. Locate the water treatment system within 10'-0" (3.05 m) of wash slab. Subsequent guidelines published by Headquarters or Water Quality Control Boards will supersede the above requirements	



Name	Material Storage Bins	Category: Site Appurtenant Structures
Description	Storage of bulk materials used in roadway or landscape maintenance, such as sand, gravel, asphalt mix, bark chips, etc.	
Space Allocation	<i>Standard Allocation:</i>	4 bins per Maintenance Station (Number of bins to be specified in PSR)
	<i>Special Justification Required?</i>	Yes, for allocations exceeding four
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	None noted
Code Information	<i>CBC "Occupancy" Classification:</i>	S1 or S2
	<i>CBC "Occupant Load" Factor:</i>	N/A
	<i>CBC or Title 24 Special Design Requirements:</i>	None noted
	<i>Heating, Ventilation, and Cooling System:</i>	N/A
Mechanical And Electrical Systems	<i>Lighting Level:</i>	10fc general illumination @ ground
	<i>Electrical Power:</i>	N/A
	<i>Plumbing:</i>	N/A
	<i>Telephone:</i>	N/A
	<i>Radio/ Speaker:</i>	N/A
	<i>Telecommunication:</i>	N/A
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i>	1200 SF (223m ²) additional bins in increments of 300 SF (55.74m ²) with justification. Bins are 20'x15' (6.10 m x 4.57 m) with 10'-0" (3.05 m) apron across the front. 6'-0" (1.83 m) high walls on three sides.
	<i>Ceiling Clearance Height:</i>	16'-0" (4.88m)
Materials And Finishes	<i>Floor:</i>	Exposed concrete with surface hardener and sealer.
	<i>Ceiling:</i>	N/A
	<i>Wall:</i>	Concrete or CMU with seal coat. Provide metal sidewalls when required for rain or wind conditions.
	<i>Door:</i>	N/A
Remarks	<i>Furnishings:</i>	N/A
	Construct concrete apron to eliminate storm water run-on. Concrete pads with no walls should be constructed for roll off bins.	



Name	Covered Trash Bins	Category: Site Appurtenant Structures
Description	Storage of trash from roadway or landscape maintenance.	
Space Allocation	<i>Standard Allocation:</i>	3 bins, maximum, per Maintenance Station (Number of bins to be specified in PSR)
	<i>Special Justification Required?</i>	No
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	None noted
Code Information	<i>CBC "Occupancy" Classification:</i>	S1 or S2
	<i>CBC "Occupant Load" Factor:</i>	N/A
	<i>CBC or Title 24 Special Design</i>	
	<i>Requirements:</i>	None noted
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i>	N/A
	<i>Lighting Level:</i>	10fc general illumination @ ground
	<i>Electrical Power:</i>	N/A
	<i>Plumbing:</i>	N/A
	<i>Telephone:</i>	N/A
	<i>Radio</i>	N/A
	<i>Telecommunication:</i>	N/A
Special Requirements	<i>Hazards:</i>	None noted
Area and Height Standards	<i>Standard Floor Area:</i>	1800 SF (167.2 m ²) increments of 600 SF (55.74 m ²), 30' x 20' (9.1 m x 6.1 m) with 10' – 0" (3.05 m) high walls on three sides, and a 10' – 0" (3.05 m) concrete apron upon request with justification.
	<i>Ceiling Clearance Height:</i>	16'-0" (4.88 m)
Materials And Finishes	<i>Floor:</i>	Exposed concrete with surface hardener and sealer.
	<i>Ceiling:</i>	N/A
	<i>Wall:</i>	Concrete or CMU with seal coat.
	<i>Door:</i>	N/A
	<i>Furnishings:</i>	N/A
Remarks	Construct concrete aprons to eliminate storm water run-on. Concrete pads with no walls should be constructed for roll-off bins.	



Name	Emulsion Tank	Category: Site Appurtenant Structures
Description	Elevated storage tank on steel frame stand. Heated asphalt emulsion used to repair cracks in roadway. Emulsion is transferred to trailer tank pulled by pickup truck.	
Space Allocation	<i>Standard Allocation:</i>	One per Maintenance Station, if requested.
	<i>Special Justification Required?</i>	N/A
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	None noted
Code Information	<i>CBC "Occupancy" Classification:</i>	N/A
	<i>CBC "Occupant Load" Factor:</i>	N/A
	<i>CBC or Title 24 Special Design Requirements:</i>	Double wall tank or A/C dike or berm
	<i>Heating, Ventilation, and Cooling System:</i>	N/A
Mechanical And Electrical Systems	<i>Lighting Level:</i>	Yard lighting
	<i>Electrical Power:</i>	Preferably 3-phase power for heating and pumping of emulsion.
	<i>Plumbing:</i>	N/A
	<i>Telephone:</i>	N/A
	<i>Radio/ Speaker:</i>	N/A
	<i>Telecommunication:</i>	N/A
	<i>Hazards:</i>	Hot equipment, toxic chemicals
Area and Height Standards	<i>Standard Floor Area:</i>	144 SF (13.4m ²)
	<i>Minimum canopy Height:</i>	N/A
Materials And Finishes	<i>Floor:</i>	Concrete pad/stand
	<i>Ceiling:</i>	N/A
	<i>Wall:</i>	N/A
	<i>Door:</i>	N/A
Remarks	<i>Furnishings:</i>	N/A
	The plan size of the emulsion tank is 10'x10' (3.05mx3.05m) Solar heating should be considered. Berm should surround base of the tank and dispenser. If space permits allow for drive through loading. Place away from public view.	



Name	Liquid Petroleum Gas (LPG) Tank	Category: Site Appurtenant Structures
Description	Above ground tank to store LPG.	
Space Allocation	<i>Standard Allocation:</i>	Size of tank to be based on need and special justification. To be described within the PSR document.
	<i>Special Justification Required?</i>	Yes
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	Master shutoff switch located near supervisor's office.
Code Information	<i>CBC "Occupancy" Classification:</i>	N/A
	<i>CBC "Occupant Load" Factor:</i>	N/A
	<i>CBC or Title 24 Special Design Requirements:</i>	None noted
	<i>Heating, Ventilation, and Cooling System:</i>	N/A
Mechanical And Electrical Systems	<i>Lighting Level:</i>	Yard lighting
	<i>Electrical Power:</i>	Power for dispensing system
	<i>Plumbing:</i>	N/A
	<i>Telephone:</i>	N/A
	<i>Radio/ Speaker:</i>	N/A
	<i>Telecommunication:</i>	N/A
Special Requirements	<i>Hazards:</i>	Explosive gas.
	<i>Security:</i>	Where required, an 8' (2.4 m) high chain link fence with lockable gates (8' (2.4 m) at dispenser and 4' (1.2 m) at tank).
	<i>Airspace:</i>	If tank is within freeway airspace, the tank and dispensing system must maintain a minimum clearance of 25' (7.62 m) from the edge of any part of the freeway structure and a minimum of 20' (6.1 m) from the drip line of any overhead freeway.
Area and Height Standards	<i>Standard Floor Area:</i>	12' x 36' (3.7 m x 11 m) clear area
	<i>Minimum canopy Height:</i>	N/A
Materials And Finishes	<i>Floor:</i>	Concrete pad or skid mounted
	<i>Ceiling:</i>	N/A
	<i>Wall:</i>	N/A
	<i>Door:</i>	N/A
	<i>Furnishings:</i>	N/A
Remarks	Include LPG tank for space and water heating when natural gas is unavailable.	



Name	Fuel Island	Category: Site Appurtenant Structures
Description	Card-lock fueling of maintenance vehicles.	
Space Allocation	<i>Standard Allocation:</i>	One per Maintenance Station, to be described in PSR document.
	<i>Special Justification Required?</i>	Yes
	<i>Designed for:</i>	N/A
	<i>Related Spaces:</i>	None noted
Code Information	<i>CBC "Occupancy" Classification:</i>	S-3 with Canopy over dispenser only at stations which receive snowfall.
	<i>CBC "Occupant Load" Factor:</i>	N/A
	<i>CBC or Title 24 Special Design Requirements:</i>	Canopies must be non-combustible. Refer to codes for requirements for aboveground fuel tanks.
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i>	N/A
	<i>Lighting Level:</i>	10fc general lighting @ ground.
	<i>Electrical Power:</i>	As required for equipment and card reader system
	<i>Plumbing:</i>	Double-wall, leak detection, and secondary containment piping required for all underground pipe that might contain liquid fuel.
	<i>Telephone:</i>	One telephone and one data outlet.
	<i>Radio/ Speaker:</i>	N/A
	<i>Telecommunication:</i>	N/A
Special Requirements	<i>Hazards:</i>	Potential hazardous atmosphere requires sealed electrical conduit. Provide master shut-off switch at Supervisors office
Area and Height Standards	<i>Standard Floor Area:</i>	None noted
	<i>Canopy Clearance Height:</i>	At stations which receive snowfall, or where required by local water quality control boards, a canopy of 15'-0" (4.5.7 m) clear height may be provided.
Materials And Finishes	<i>Floor:</i>	Concrete with surface hardener and sealer
	<i>Ceiling:</i>	None noted
	<i>Wall:</i>	N/A
	<i>Door:</i>	N/A
	<i>Furnishings:</i>	Card Reader System One set of water and compressed air hoses. Duplex dispenser to facilitate filling two tanks at once.
Remarks	Extend canopies a minimum horizontal length of 10' (3.05 m) beyond the edge of pump dispenser. Above ground fuel tanks are not to be covered. Typical fuel is diesel. Verify need of gasoline.	



Name	Radio Tower and Pad	Category: Site Appurtenant Structures
Description	Radio & Telecommunications	
Space Allocation	<i>Standard Allocation:</i> One per Maintenance Station <i>Special Justification Required?</i> Yes <i>Designed for:</i> N/A <i>Related Spaces:</i> Communication room	
Code Information	<i>CBC "Occupancy" Classification:</i> U-2 <i>CBC "Occupant Load" Factor:</i> N/A <i>CBC or Title 24 Special Design Requirements:</i> N/A	
Mechanical And Electrical Systems	<i>Heating, Ventilation, and Cooling System:</i> N/A <i>Lighting Level:</i> N/A <i>Electrical Power:</i> N/A <i>Grounding:</i> Provide "UFER" grounding in the Tower/Pole Base foundation <i>Plumbing:</i> N/A <i>Telephone:</i> N/A <i>Radio/ Speaker:</i> N/A <i>Telecommunication:</i> N/A	
Special Requirements	<i>Hazards:</i>	Contact office or radio communications.
Area and Height Standards	<i>Standard Floor Area:</i> Sized as required <i>Minimum canopy Height:</i> N/A	
Materials And Finishes	<i>Floor:</i> Concrete pad if required. <i>Ceiling:</i> N/A <i>Wall:</i> N/A <i>Door:</i> N/A <i>Furnishings:</i> N/A	
Remarks	Contact Office of Radio Communication Engineering in the Division of Maintenance	